YACHTING

VOLUME XXVII
NUMBER I

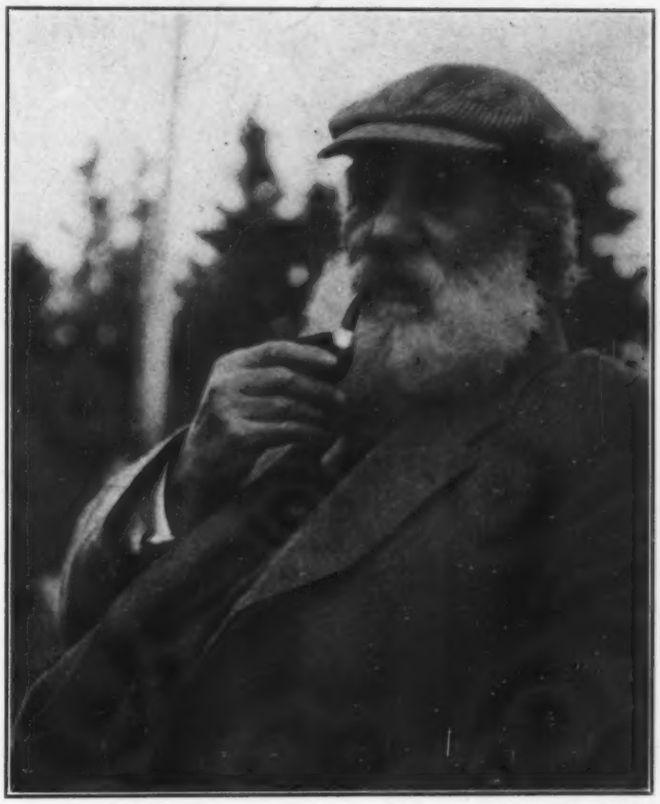
JANUARY, 1920

25 Cents a Copy
$2.50 a Year

From Telephone to Hydroplane

The inventor of the telephone brings out the world's fastest motorboat

By HENRY C. AMES

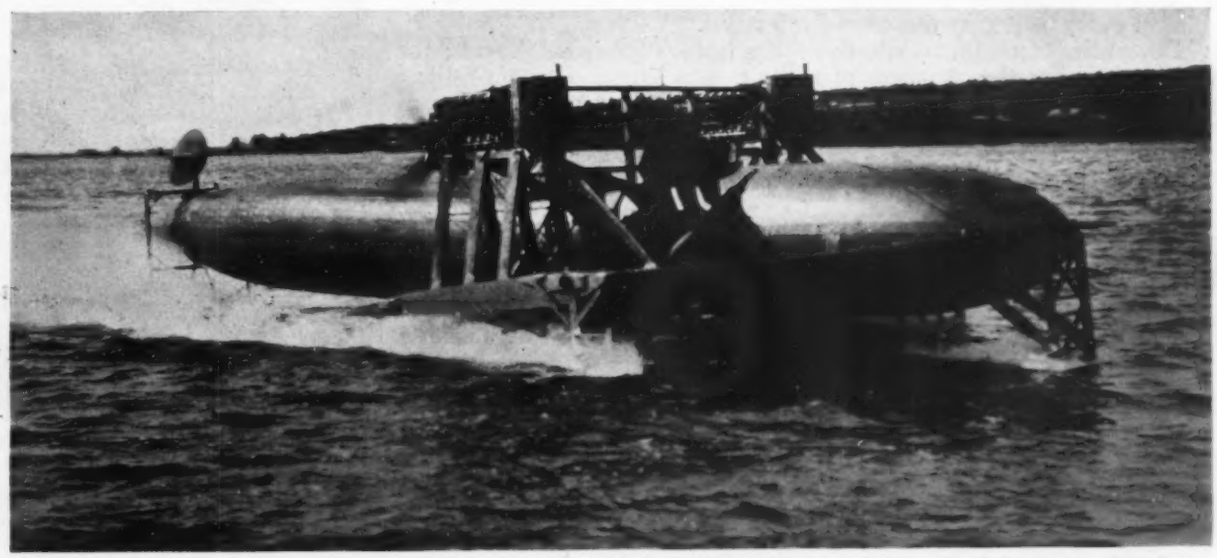


Doctor Alexander Graham Bell watching his new speed marvel HD-4 darting over the Bras d'Or Lakes at Baddeck, N. S.

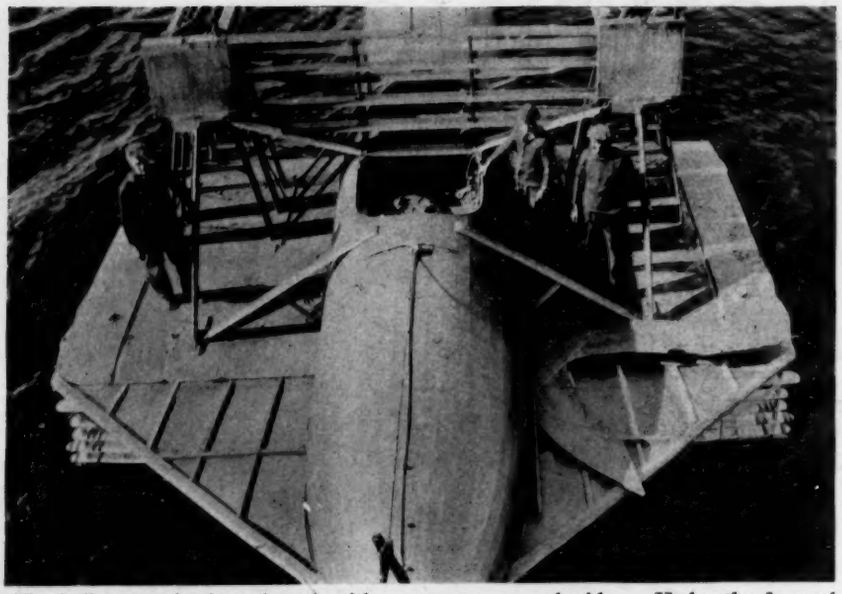
DOCTOR ALEXANDER GRAHAM BELL, inventor of the telephone, has turned out the fastest boat that the world has seen. *H D-4*, his latest experiment, glides over the surface of the Bras d'Or Lakes at a speed of seventy miles an hour. Her builders say that she is as yet undeveloped, about where the aeroplane was when a race from Mineola to the Statue of Liberty was an "epoch making event."

Few inventors have either the time, means or opportunity to develop all their inventions. Oppressed by the necessity of making a living, they are often driven to work along the lines that promise immediate commercial success. Such inventions are often mere side issues of their principal theme and they have to see others carry on to full fruition the darling children of their brains.

Alexander Graham Bell has been fortunate in having ample means and time to permit the investigation of many fascinating theories. Born in Scotland in 1847, he early came to this country and with his father, Melville Bell, was interested in a school for the deaf in Boston. The study of the mechanism of speech led to the invention of the telephone and the royalties from that invention have given him the opportunity to carry out other lines of investigation. He has searched many fields. Work for the benefit of the deaf has occupied much of his attention and the Volta Bureau in Washington stands as a monument to that interest. Experi-



H D-4 loafing along. She starts to climb out at a speed of about fifteen knots. As the speed increases, she rises higher until her hull is clear of the surface and she is running on her "hydrofoils" on each side and at the stern. The forward set of "hydrofoils" is clear of the water at top speed, touching only the crest of an occasional wave.



The hull proper is cigar shaped, with a pontoon on each side. Under the forward outboard corners of the pontoons are the supporting "hydrofoils." A low-compression Liberty motor stands on each pontoon. This photograph was taken as HD-4 was being hauled out on her marine railway.

ments in sheep breeding have been made at his country place in Nova Scotia with considerable success. The study of heredity, eugenics and longevity have taken much of his time. He was a pioneer in certain applications of electricity for the benefit of the race and has performed a number of very curious experiments, such as talking along a beam of light.

Mechanical flight attracted him at a time when the man who seriously suggested that a heavier than air flying machine was possible was considered a fit subject for the alienist. Living in Washington, he was a close friend of Professor S. P. Langley when the latter was experimenting with his now famous "Buzzard" and being ridiculed by almost every paper in the country. Doctor Bell often discussed with Professor Langley the problems of flight and did a good deal of quiet experimenting on his own account. When Langley flew one of his large sized models, Doctor Bell photographed it in the air. This was probably the first photograph taken of a successful heavier than air flying machine.

At the time he was studying the proper form and construction of aeroplanes by means of large kites for, he reasoned, the experimenter was thus safe and did not share the fate of an unsuccessful model. Some of these kites were big enough and strong enough to lift heavy weights; some of them soared when released, like giant birds of prey; some were fitted with floats and towed along the surface of the water by fast motor boats until they rose in the air; some had their own power and were driven by air propellers. His country place at Baddeck, on the Bras d'Or Lakes in Nova Scotia, was the scene of much of this work and of late years the Doctor had there laboratories, boat-building shop, machine-shop and so on.

The experiments made on aeroplane wings by many scientists have taught us that the upper surface of the wing is much more effective than the lower. The present type of hydroplane boat is thus inefficient as the bottom of her hull is the supporting surface. In attacking the problem Doctor Bell has used lifting surfaces outside of the boat's hull. These "hydrofoils," as he calls them, are separate from the boat and are arranged to lift her entirely clear of the water when at top speed.

His latest experimental craft, the *HD-4*, is a curious looking object considered as a specimen of naval architecture. Her cigar shaped hull is some 60 feet long and about 6 feet in diameter and is strongly built though fairly light in construction. On each side forward is a float or deck or pontoon, as you choose to call it, 16 feet long and about half as wide. Under the forward outboard corner of each of these side hulls is a set of hydrofoils, a ladder-like arrangement of struts with steel supporting surfaces nicely shaped to a form dictated by mathematical research and patient experiment. These supporting surfaces rake downward and inboard so that as one leaves the water the next below is still at work. The boat thus rises smoothly and not jerkily. Aft there is another set which, pivoted on its center, acts as a rudder. The boat at speed runs on these three sets though there is a fourth one at the bow to keep her from plunging in a seaway. This forward set merely touches the crest of an occasional wave and is swung up out of the way when the boat is hauled out.

Her motive power consists of two low compression Liberty Motors strongly braced to each other and to the supporting deck. It is interesting to note that the horizontal members of all this bracing are shaped to the proper aeroplane wing camber and are thus lifting surfaces. Four bladed propellers turn the power of the motors into useful thrust. The motors are fitted with compressed air starters, and air pressure forces the fuel from tanks to carburetors.

As the *HD-4* starts and gathers speed, the side hulls add their lift to that of the hydrofoils and she begins to climb out. The pontoons are clear of the surface when she has reached a speed of 20 miles an hour and she is running on the hydrofoils alone. Then speed increases rapidly and the boat climbs out bodily until her top speed is attained. Her maximum is somewhere around 70 miles an hour and she is then running merely on parts

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The port set of "hydrofoils" at top speed. The boat is running on portions of the two lower ones. The lowest one shows clearly, the next lowest looks like a black shadow, the next above (the one with two single stripes on the end) is clear of the water. These steel blades are carrying over a ton per square foot.

M. Rosenfeld, N. Y.

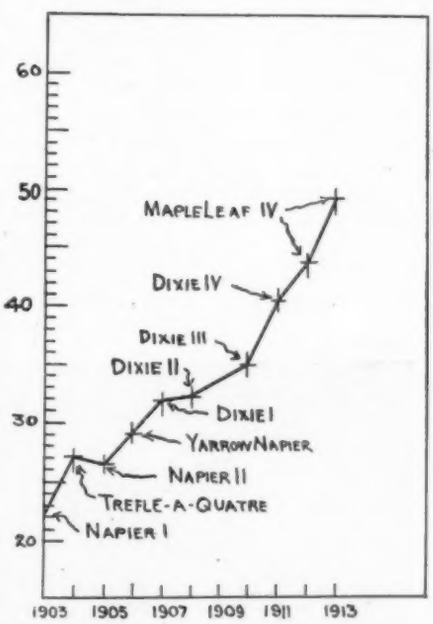
Mr. Wood's eight brothers are almost as enthusiastic motor boat bugs as he is. This picture was taken at a race meet last summer, when all the brothers were hard at work on their boats and knocked off for a moment at the photographer's request. Mr. G. A. Wood, who has challenged for the British International Trophy, is next to the end on the left.

Mr. Wood's Racing Career

He is not a new comer to the sport, but has raced fast motor boats for ten years

MR. G. A. WOOD, who is going to England this summer in pursuit of the British International Trophy, was bitten by the motor boat bug a number of years ago. He has had considerable experience operating various kinds of motor boats from a 16 footer up, and has been racing for the past ten years. The scene of his earlier experiences in the racing game was the Mississippi River as his home was at that time in St. Paul, Minn. Since moving to Detroit, however, he has naturally devoted his motor boating activities to the benefit of that place.

After experimenting with various craft he finally got a real fast boat, *Miss Detroit II*. With her he defeated *Miss Minneapolis* for the Gold Cup at Minneapolis in 1917. The same year he won the Thousand Islands Challenge Cup at Alexandria Bay and also established a world's record for a mile with a speed of 61.724 miles per hour, the average of six one mile dashes worked out under Admiralty conditions. He thus annexed in one year all of this country's so called famous high speed motor boat trophies with the exception of the Mississippi Valley Webb Trophy which was not put up for competition that year. In 1918, with this same boat, he captured this last trophy in a race at Moline, Ill., thereby making his collection complete and establishing a record never before obtained by any one man even with a string of boats. The same year he became active in a syndicate which built *Miss Detroit III*. She had a 12-cylinder aeroplane motor which Mr. Wood rebuilt at his shop, and with her he succeeded in retaining the Gold Cup for the Detroit Yacht Club. *Miss Detroit III* averaged 52.1 miles per hour for the 30 mile course. His previous year's winner, *Miss Detroit II*, had trouble with her power plant and did not finish.



The challenger will have to travel fast to bring the cup home, for this diagram shows how speeds have risen in the B. I. T. races.

Immediately after this Gold Cup race *Miss Detroit II* was equipped with an engine borrowed from *Miss Minneapolis* and with her sister, *Miss Detroit III*, shipped to Toronto, Ont., for exhibition races scheduled there. This regatta was so unsatisfactory to the contestants, the races being run in bad weather, that Mr. Wood decided to give up racing. Fortunately, his enthusiasm did not entirely leave him and during the winter he decided to buy *Miss Detroit III* from the syndicate which had built and raced her.

He fitted her with a Liberty motor which was some 500 pounds lighter than her previous power plant, though her original engine had given satisfaction. Winning the Thousand Islands Championship Cup at Alexandria Bay for the second time, he decided to rebuild the old hull of *Miss Detroit II* and equip her also with a Liberty motor. Both of these boats were entered in the Gold Cup races in 1919, *Miss Detroit III* racing under the colors of the Detroit Yacht Club and *Miss Detroit II* carrying the flag of the Miss Detroit Power Boat Association, to whom she was chartered.

The race narrowed down to a struggle between these two boats, the other contestants being in trouble before the race was half over. The two racers showed about the same speed on the straightaway runs, but the older craft could not negotiate

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The Story of the Harmsworth Cup

A brief account of the contests for the British International trophy, to be raced for again next August

THE eleventh contest for the British International Trophy, more familiarly known as the "Harmsworth Cup," will begin on August 10, 1920, in the sheltered waters behind the Isle of Wight, England. The Royal Motor Yacht Club of Great Britain has accepted the challenge of Mr. Gar Wood of Detroit, made through the American Power Boat Association. Probably a couple of other American craft will join Mr. Wood's challenger as each nation is permitted to enter three boats for the contest.

Lord Northcliffe, who was then Sir Alfred Harmsworth, offered this trophy for competition in 1903 and the first race for it was held at Queenstown. It was won by *Napier* which made 18 knots. The second was held at Cowes and *Trefle-a-Quatre*, the French competitor, though badly beaten, entered a protest and was awarded the cup. In the third contest, *Napier II*, the British challenger, proved superior to her French rival and the trophy returned to England.

In 1906 the United States took a hand, and Mr. W. Gould Brokaw went abroad with the *Challenger* to try conclusions with the British. She raced with her engine uncovered, its protecting hood having been lost overboard as she was leaving this country, and only three of her six cylinders were working at the finish of the race. *Yarrow Napier*, the defender, beat her by 2 minutes and 16 seconds over a course of 7.7 nautical miles.

Undeterred by *Challenger's* defeat, the following year Mr. E. J. Schroeder challenged with the original *Dixie*. She was a displacement boat just under 40 feet in length, designed by Clinton H. Crane and powered with an eight cylinder Simplex motor that developed 130 H. P. She was built especially for this contest and launched only a week before the race. The course was 35 miles in length and *Dixie* covered it at an average speed of 27.6 knots (31.8 statute miles) beating the two British defenders, *Daimler I* and *Daimler II*, by a good margin.

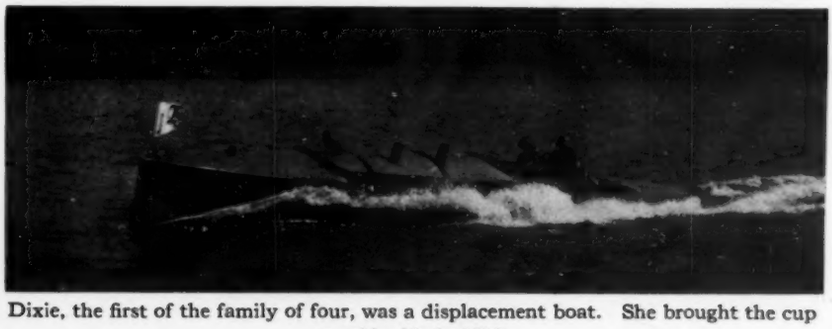
The following year the British came to this side with the *Wolseley-Siddeley*, of 400 H. P., and the triple screw *Daimler II* with 500 H. P. The United States was represented by *Dixie II*, *U. S. A.* and *Den*. *Dixie II* was a Crane boat with an 8-cylinder V-type motor designed and built by H. M. Crane and developing 200 H. P. The course was laid out in Huntington Bay, New York, and measured 30 nautical miles. *Dixie II* and *Wolseley-Siddeley* were close together all through the race. *Dixie* finally got a commanding lead near the finish, but came down the home stretch sheering about from side to side. Something was evidently wrong and, after she crossed the line and stopped, the engineer was found unconscious and the pilot delirous. The heat and exhaust gas from the motor had knocked out the engineer and for three miles the pilot had supported him with one hand and steered the boat with the other. *Daimler II* broke a connecting rod and withdrew, while *Den* and *U. S. A.* were completely outclassed.

In 1909 a challenge was received but was later withdrawn as it was found impossible for the British entry to be got ready and tuned up in time.

1910 was a memorable year for in the races for the British International Trophy the hydroplane came into its own. The American team was composed of another *Dixie* called *Dixie II* but in reality *Dixie III* for she had a new hull though she was driven by the same motor as in 1908. She was owned by a syndicate of which Mr. Frederick K. Burnham was the head. He also steered her in the race. Mr. H. H. Melville and August Heckscher entered *Nameless*, a 40-footer powered with four 8-cylinder V-type motors driving 4 propellers. Another high speed boat, the *Restless*, had been built and entered but she was not ready when the test came, though she started and ran a short way. Indeed, all through the early part of 1910 we heard vague stories of wonderful boats with enormous speed that were going to defend the cup, but when the starting gun was fired only three American racers were at the line. The British team included the original challenger of the year, *Maple Leaf III*. She, however, was tried out in bad weather a day or two before the race and so seriously wrenched as to be unable to start. *Zigarella* was the smallest of the lot, being only 26 feet long. She was an odd looking craft with a very narrow stern and a deep step in her bottom amidships. She was a Thornycroft product, much like the famous *Miranda*, and her influence is shown in the remarkable "coastal motor boats" built for the British Navy during the great war. She danced over the water in a way that was new to us then and seemed to be going at tremendous speed. *Pioneer*, a 7 step Fauber hydroplane, was the dangerous entry.

The course was 30 nautical miles and was laid out in Long Island Sound off Larchmont. On the afternoon of the race there was no wind and the Sound was almost like glass. When the gun went *Pioneer* rushed across the line like an express train, passing *Dixie* as if she was standing still and turning the first mark well in the lead. At the second mark *Dixie* was a mile or more astern, but the watchers saw *Pioneer's* bow wave disappear as she slowed down and stopped dead. Seaweed had choked the intake for her cooling water, her big motors had heated and, though she was got going again, she had lost her speed. *Nameless* was withdrawn at the first turn of the first lap. *Dixie* finished first, averaging over 30 knots. *Zigarella* also had trouble and so the cup stayed on this side of the Atlantic.

For the 1911 race Huntington Bay was again selected. Again a new *Dixie*, a single step Crane hydroplane, was on the defending team. The same reliable motor with a duplicate drove her. The same designer drew the plans for her hull.



Dixie, the first of the family of four, was a displacement boat. She brought the cup to this side in 1907

Disturber II, a 32 foot Fauber hydroplane owned by Commodore James A. Pugh of Chicago and driven by two 130 H. P. Sterling motors, was the second defending craft, while the third was the 32-footer *Viva*, owned by Commodore J. Stuart Blackton, like Commodore Pugh a new comer in the international racing game. Great Britain's team was *Pioneer* and *Maple Leaf III*, both of whom had been here the year before, and *Tyreless II*. This third entry was brought along apparently to provide a boat that would be reasonably sure to cover the course at good speed. She was a round bilge craft and not a hydroplane.

This year for the first time the races were the best two out of three heats. In the first heat *Dixie IV* finished in the lead, averaging 35.1 knots and leading *Pioneer* by less than a minute. The other two British entries both withdrew and the other two American craft were far astern when *Dixie IV* and *Pioneer* crossed the finish line. In the second heat *Pioneer's* motors went bad and prevented her finishing, so that *Dixie IV* and *Viva* were the only two to complete the course. *Dixie IV* eased up, making only 33½ knots.

Huntington Bay was again the scene of the contest in 1912 and this time the cup went back to England with the challengers. The United States were represented by *Ankle Deep*, a 32-foot hydroplane designed by Clinton H. Crane and owned by the late Count C. S. Mankowski. Commodore Blackton and Mrs. Blackton entered two craft designed and built by C. C. Smith of Algonac, Mich. *Baby Reliance II* was a 20-footer and *Baby Reliance III* a 26-footer, both driven by 8-cylinder Sterling racing motors. The British craft were *Maple Leaf IV*, a big Fauber-Saunders hydroplane with two 380 H. P. V-type 12-cylinder motors and the 26-footer *Mona* with an 8-cylinder 150 H. P. Wolseley motor.

Baby Reliance II took the first heat, averaging 37.1 knots, beating *Mona* by 8 minutes. *Maple Leaf IV* wasted nearly 20 minutes getting her motors started, though she tore around the course at a tremendous rate when once she got under way.

The second day it blew hard and there was a nasty sea rolling into Huntington Bay, particularly near the northern mark. The big *Maple Leaf* won though she averaged less than 27 knots. This necessitated the third heat which was won by *Maple Leaf IV* with an average speed of 37 knots. Three minutes and a half later *Baby Reliance III* followed the winner, the only other boat to complete the course. *Ankle Deep*, with a lead of over a minute at the end of the second lap, apparently had the race won, for the water was smooth and conditions to her liking. Instead of taking it a bit easy, however, *Ankle Deep* and *Baby Reliance* raced their heads off, each trying to beat the other and forgetting about the Britisher. The Mankowski boat broke a shaft and was out of it and the British took the cup.

Disturber IV was in England when the war began and racing toys were dropped for sterner things

In 1913 the scene shifted to England, two American racers going abroad in the vain attempt to recover the trophy. Count Mankowski took over his *Ankle Deep* and Commodore Pugh entered *Disturber III*, a Fauber designed 40-footer of 600 H. P. built in Chicago. *Maple Leaf IV*, the 1912 winner, was naturally one of the defending team. Great Britain was also represented by *Izme*, a 33-footer built by Saunders and powered with two 12-cylinder aeroplane motors and *Crusader*, a 33-foot Thornycroft boat of 300 H. P. As provided in the Deed of Gift, other nations could compete and two boats were entered by France. They were *Despujols I* and *Despujols II*, 23-footers with Panhard-Levassor motors. The course was supposed to be 32.4 nautical miles, but the accuracy of this measurement has been questioned as all of the racers made better speeds that day than ever before or since. Possibly it was statute miles instead of nautical but there will always be doubts about the records made in that contest.

The first heat went to France, *Despujols II* finishing first, followed by *Maple Leaf IV*, *Ankle Deep*, *Izme*, *Despujols I*, *Crusader* and *Disturber III*. The latter craft had engine trouble and took more than 3 hours for the run. The Frenchman's time, taking the alleged length of the course, gave a speed of 46.77 knots! The next race went to the British and *Maple Leaf IV*, the winner, was credited with a speed of 49.2 knots! Behind her came *Despujols I*, *Ankle Deep*, *Disturber III*, *Izme* and *Crusader*. In the third heat *Maple Leaf* repeated, averaging 48.4 knots, and being followed by *Ankle Deep* with an average of 44.7. *Crusader* finished third and the French entries quit.

American motor boat enthusiasts were not content to leave the cup in the custody of their British cousins and challenged in 1914. Commodore Pugh built *Disturber IV*, a Fauber type of hydroplane with two twelve-cylinder motors said to have been able to develop 900 H. P. each at 2500 revolutions per minute. He took her to England and was there when the storm of war broke and had considerable difficulty getting back to this country with his boat. He left behind him for the use of the British his entire supply of gasoline, oil, etc., which was accepted by the Admiralty as they were about to requisition it.

Though there was some talk early last year of another race, the challenge was not sent until the latter part of September. Its acceptance may well mean that Mr. Wood's challenger, *Miss America*, will be accompanied to England by two other American racers selected after elimination trials on this side of the water. It is too early to predict what craft will be available but there are several speedy boats which might compete. France also may be heard from and the races next August will be of intense interest.

The Deed of Gift provides that the hull of a competing boat shall not exceed in length 12 meters. This is the only limit placed upon the hull. Motors may be of any type or power but every boat and engine must be a product of the country she represents. A crew of not less than two men must be carried on each boat and the helmsman must be a member of the club under whose colors the boat races. The course is from 30 to 35 nautical miles in length and must be laid out in sheltered waters. There is no time allowance and the first boat across the finish line wins. The holders of the trophy may fix for the contest any date between June 1st and October 1st.

The America's Cup Races

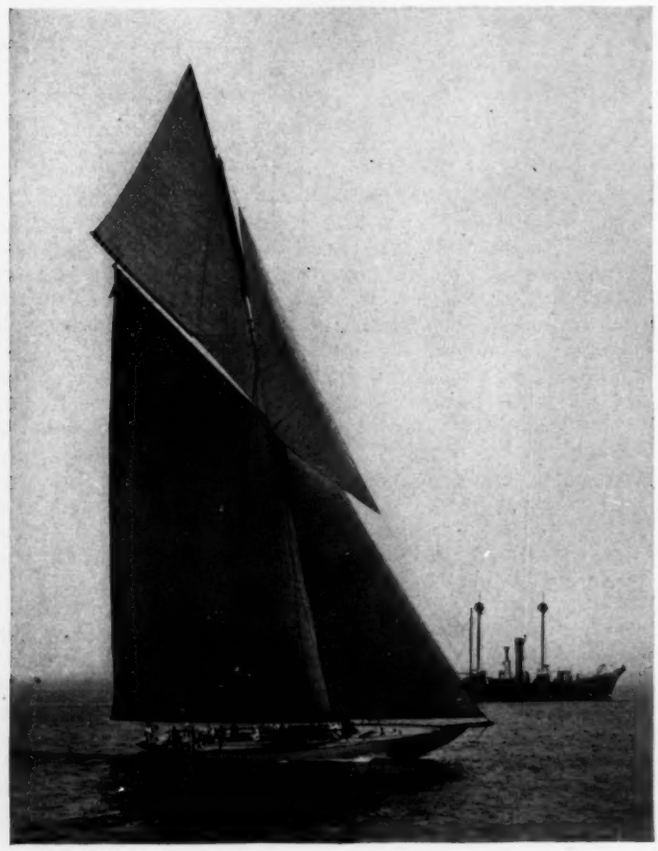
By GILES MILBY

The present situation regarding the races to be held this summer

THE attempt of Sir Thomas Lipton to win the America's Cup with his sloop *Shamrock IV*, which was interrupted by the war, will be resumed this summer. There are still several points to be cleared up and the New York Yacht Club is at present negotiating with the challenger. The defender has not yet been formally selected. The course to be sailed and the exact time of the races are also still in doubt. The Club, however, will pick either *Vanitie* or *Resolute*, most probably the latter. The races will be sailed in July or the first part of August. As to the course, many yachtsmen favor that off Newport but we venture to predict that the contest will take place over the familiar course off New York. The course off Newport would be unfair to the challenger for local knowledge of the somewhat intricate and very variable tidal currents would give the defender an advantage. Then, too, at Newport the challenging yacht would be far from a base of supplies, New London and Greenport being the nearest available ports. The defending yacht on the other hand—particularly if she be the *Resolute*—would have the Herreshoff yard at Bristol within easy reach. Besides, the course would not be so accessible to the general public at Newport as off New York and very many people would be disappointed. The arrangements made by the U. S. Coast Guard for policing the course and preventing interference with the racers have been excellent in the last few contests held. Indeed, far from any sightseeing craft interfering with the racers, the accompanying fleet has been kept at a great distance from the contending yachts.

It will be remembered that the Irish baronet challenged for the cup before the war and *Shamrock IV*, the Nicholson-designed sloop, was on her way across when the war began, putting into Bermuda when she heard of the outbreak. Sir Thomas then requested a postponement, first for 30 days and then for a year, but the New York Yacht Club decided to hold the whole matter in abeyance until peace came. Last year he renewed the negotiations with the result that this summer will see another contest for the historic trophy. Sir Thomas visited New York in November and inspected his yacht. She was hauled out of her storage shed in South Brooklyn, put overboard and towed to City Island where she is now being overhauled and prepared to fit out. At that time the veil of secrecy which had shrouded her was lifted and photographers and movie men had their innings.

The form of the yacht, as revealed in November, bore out what was said of her in YACHTING at the time of her arrival. She looks like an "old rule boat" and with her humpbacked sheer and stubby ends is hardly a thing of beauty. However, "handsome is as handsome does" and in a breeze of wind *Shamrock IV* ought to reach like a scared cat, though a short, choppy sea will be likely to bother her considerably. She will doubtless have to allow the *Resolute* a good deal of time and we do not think that the green sloop can show her heels to the Herreshoff boat. Undoubtedly she is fast, but whether she is fast enough to take the cup back with her will be settled this summer.



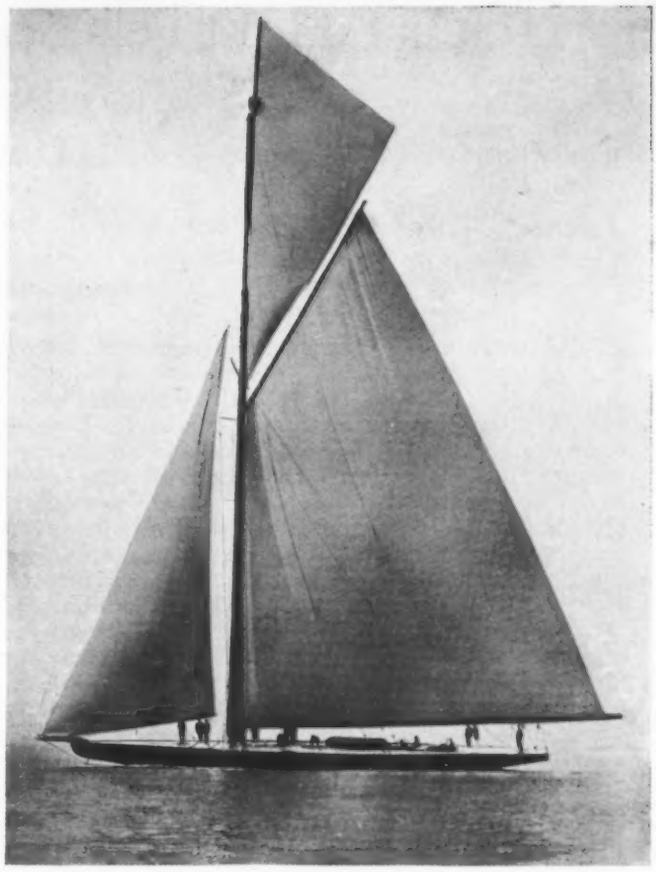
Resolute with the single head rig which she carried during part of the season of 1914. She was the best and most consistent performer in her class that season and will probably defend the America's cup this summer

In 1914 three yachts were built to contend for the honor of defending the cup. They were the Herreshoff sloop *Resolute*, the Gardner-designed *Vanitie* and the Owen creation *Defiance*. The latter boat showed up very poorly. When she first came out she was very much oversparred and would go down to her skylights in a puff. *Vanitie* sailed remarkably fast at times, occasionally beating *Resolute* on windward work, but the fact remains that on the showing of the two boats throughout the season of 1914 *Resolute* was the faster under general all round conditions. In twenty races sailed between the cup candidates that year *Resolute* beat *Vanitie* in all but three when both of them started. Two of *Vanitie's* wins were early in the season, in light and somewhat fluky conditions and her third win over *Resolute* was when the latter withdrew on account of fog. In general, in light to moderate weather *Resolute* outsailed *Vanitie*. Though the Gardner boat was faster when it breezed up, she could not finish far enough ahead of the Herreshoff craft to save her time allowance. All through the season

Resolute was sailed and managed in a way that would probably have made her the choice of the Regatta Committee even if the racing between her and *Vanitie* had been closer. Her crew were never idle and there was team work and efficiency in the yacht's management that were reflected in her sailing qualities. Practically every day that she was rigged she was under sail, drilling the crew, trying changes in rig, trim and so forth, with her afterguard noting the way she sailed under varying conditions, while day after day passed with at least one of the other candidates idle at her moorings. *Resolute* was a very consistent performer in all kinds of weather while the other two sloops did a good deal of in and out sailing.

There have been rumors that both yachts would carry the Marconi rig this year but this is improbable, from all that we hear. It would be interesting to see racing yachts as big as these cup boats fitted with that rig, but it would be considerable of an experiment.

We suppose that there will be the usual crop of trash published about the yachts, for instance, the old wail about the dangers of the challenger's ocean passage and the strain put on her hull and gear by the sea voyage. As a matter of fact, the challenging yacht always comes across under a very small rig and is carefully nursed through any bad weather. Of course, if she were towed hard in a heavy sea there would be a chance of racking her, but such a proceeding would be foolishness. The real strain comes in racing, when she is carrying every inch of canvas she can swing and all her gear is taut. Those who saw the old *Vigilant* jibed off the Hook years ago, with Charlie Barr waist deep in water and Ed Fish up to his knees, will realize some of the punishment a yacht takes in a hard race.



Shamrock IV, as she appeared in British waters in 1914. She may be a dangerous competitor in a breeze of wind. With her snub nose and sawed-off stern she is hardly a thing of beauty, but her looks will not count if she prove fast enough to lift the cup.

Yacht Racing In Cuba

The Havana Yacht Club devotes its racing activities to sailing craft although there are a number of motor boats which carry the club burgee. During the season of 1919 races were held regularly and some very close contests resulted. Occasionally there were mixed classes, the P boats and Sonders racing together, the larger boats, of course, allowing time. *Sprig* won the first race for Sonder boats on June 1st, and the second on June 8th. The third, fourth and fifth races were won by *Okeia*, owned by Senor Manuel Areces. On July 13th the Dickenson Cup was won by *Marianas*, defeating *Okeia* and *Robin*. *Sprig*, owned by Senor Victor G. Mendoza, captured the Panchito Terry Cup on July 27th.

August 3rd saw the race for the Congreso Cup. The winner was *Ellen*. The Tolon Cup was competed for a week later and won by *Sprig*.

Some of the Sonder boats of the Havana Yacht Club in a race off the historic Morro.

Uncertainties of a Sailor's Life

By C. S. STANWORTH

Commander, U. S. Navy, Retired

We know an officer, now a colonel, U. S. M. C., who was shipmates with the author and saw the incident related here. He says that he finally stopped telling the story—for nobody would believe him!

ON a Thursday afternoon in August, 1906, the U. S. S. *Minneapolis* was at the Navy Yard, Philadelphia, preparing to go out of commission. On the port side, which was next to the dock, three flat cars were being loaded with stores, while the engineer's force was hauling up coal from the bunkers and discharging it into a lighter on the starboard side. Officers had received their preliminary orders to other duties, details of men to other ships were ready in the executive officer's office and, as the supply of coal and stores on board was at a minimum, a few days would see the flag hauled down and officers and men scattered to other ships.

Then comes a marine orderly with a message: "The commandant would like to see the commanding officer at once."

The captain is away, so the executive officer goes and, returning in a few moments, orders the officer of the deck to get the stores on the dock back in the storerooms, rig coaling whips and send word to the heads of departments to report to him at once. The navigator, chief engineer, paymaster, doctor and marine officer soon appear and receive instructions: "Make out requisitions for a full supply of stores at once. Chief, we will start coaling to-morrow morning. I can give you no further information, gentlemen."

Immediately the moving picture was reversed. Flat cars and lighter were speedily emptied into the storerooms of the ship, other cars and lighters filled with stores and coal were brought alongside and rapidly discharged. The captain and executive officer alone knew the nature of the orders and the mystery added zest to the work of all hands.

By Sunday night, coal and stores were all on board and at 9 A. M. Monday the ship had been cleaned and reported ready. Now appeared a working party of marines and flat cars loaded with ammunition, provisions, two field guns, tents and lumber for tent floorings, came alongside and were soon taken on board. The working party of marines left and that afternoon a battalion of 400 marines in heavy marching order marched down and embarked. It was now low water and, deep-laden with extra stores and men, we had to wait for Tuesday's high tide.

While this scene was going on in Philadelphia, 400 miles to the southward a small schooner laden with lumber was working her way to the northward along the inner edge of the Gulf Stream.

Her Monday morning was gray and gloomy and close-reefed she was plunging and rolling in the heavy sea kicked up by northeast squalls. It was barely daylight and a solitary figure clad in oilskins struggled with the wheel as the seas hit her rudder, while the rest of the crew were below with hatches closed to keep out the seas washing over her deck.

Topheavy with the lumber stowed on her deck, a strong puff of wind catches her just as she rolls to a heavy sea, the lumber suddenly shifts to leeward and over she goes. The man at the wheel somehow manages to win clear of the tossing mass of lumber and wreckage and to keep himself afloat with the aid of a couple of planks. He sees and hears nothing of the rest of the crew.

All through Monday he struggles with his two planks in the rough sea. As night comes on, the rain ceases, the wind lulls and the sea begins to go down.

Tuesday morning is bright and clear, the sea fairly smooth, and our man lashes his planks with his oilskins in the form of an X and, perched on the cross, he looks around for aid. Occasionally through the day he sees far off on the horizon the glint of sails, the smoke of a steamer, but none come near him and Tuesday night settles down. Thirst and hunger now assail him as he realizes he has no chance to be seen in the darkness of the night.

Wednesday morning dawns, again bright and clear, and, as the horizon becomes sharp and distinct in the growing daylight, he raises himself as high as possible and eagerly looks around, but sees no vessels near. All day Wednesday, broiling in the hot sun, tortured with thirst, he sees in the distance ships filled with fellow men, all unconscious of his plight, but their paths lead far away and the sun sinks in the West and the darkness brings solitude and despair.

Tuesday night sees the *Minneapolis* clear of Delaware Bay, speeding towards Havana and by now all hands know we are to take part in the second occupation of Cuba.

Wednesday afternoon is bright and clear, we pass Cape Hatteras and change course to about S. S. W. so as to keep on the inner edge of the Gulf Stream, where we have but little current to oppose us. The decks piled high with lumber, the 400 extra marines on board, give the ship an unfamiliar aspect and the prospect of active service gives a quickening spirit, an animation to all on board.

In the limited space afforded by the lumber piled on deck, squads of marines from time to time are assembled, their equipment carefully inspected, ammunition belts filled, emergency rations served out and packed in haversacks. On the quarterdeck, in the wardroom, officers are gathered discussing the political situation in Cuba, the possibility of armed resistance to our forces, the length of our stay. On the forecastle, on the lumber piles, groups of intermingled sailors and marines are gathered around some veteran who has seen active service in Cuba or the Philippines, listening eagerly to his accounts of the dense tropical undergrowth, the chopping blows of a machete or bolo in the hands of a native, as you hear:

"Shoot before they get near you or, if your ammunition is gone, give them the straight thrust with the bayonet. They don't use the point but just chop and, if they get near you, off goes your arm."

Wednesday night comes, taps sound, and the extra marines stow themselves away in every available place, to dream of battles and taking life. Near the rail stands the corporal of the guard, looking out over the water. He has just returned from his inspection of sentries and stands listening to the intermingled sound of the creaking of lumber as the ship rolls, the throb of the engines, the splash of the waters as they are dashed aside, when he hears from the

dark waters a faint cry of "Help." It is too distant to come from one of our men fallen overboard so the cry of "man overboard" is not raised and he reports to the officer of the deck, who slows down the engines and puts the helm hard a-starboard. But, at the speed we are making, the ship will describe a semicircle of 900 yards diameter before she has turned around.

Seated in his room, the executive officer hears the unusual sound of engine bells and hastens to the bridge, where the officer of the deck reports what has been done. By this time the ship is heading N.N.E., and the searchlights are turned on. Realizing at once that we must cut across the circle to regain the spot where the cry was heard, the course is changed to N.W. and the ship goes ahead. The captain is now on the bridge. Presently the engines are stopped, both lifeboats are lowered and ordered to pull along our port beam, and the ship goes ahead again.

Eager eyes are on the bridge watching the waters illuminated by the search lights. A gull seated on some floating wreckage suddenly gleams white as the light strikes him. A quickening of the heartbeats but the gull lifts his wings, we see what it is and the search light sweeps on. Time and again the man at the searchlight returns to the wreckage on which the gull is perched, until a few energetic phrases make him seek new waters. Then dimly appears an object, waving from side to side. The searchlight is kept on it and, hailing with a megaphone the darkness into which both lifeboats have disappeared, they are ordered to pull down the beam of the forward searchlight and pick up this object. Presently one of the lifeboats dashes into the beam of the search light, the ship steams up close, and the coxswain reports that they have picked up a man floating on a couple of planks in the water. It is now after midnight.

"Hook on," and both lifeboats are hoisted. When flush with the rail, the rescued man is passed out and taken to the sick bay. He is unconscious, so the captain remains in the vicinity until daylight, but a search of the waters shows only an unusual amount of floating lumber, no other signs of wreckage, and the course to Cuba is resumed.

The doctor reports that the rescued man's arms and thighs are badly lacerated but otherwise his physical condition is good and the captain and executive officer visit him in the sick bay.

His story is briefly told. He was Olsen, first mate of a lumber schooner that was capsized in a blow early Monday morning. He had managed to keep afloat with a couple of planks but had seen nothing of the rest of the crew. No vessels had come near him until he saw our lights Wednesday night. At first he paddled to intercept us, then, fearing we would run him down, tried to paddle away. He did not remember crying for help or being picked up.

Assured that he would be looked out for, he was left to regain health and nerve and, when he was finally sent to the United States, a liberal contribution from our officers and men served to give him a new outfit.

NOTE:—Rear Admiral Fiske, who commanded the *Minneapolis* when this remarkable rescue was made, describes it in his latest book (*From Midshipman to Rear Admiral*) substantially as above. He says, however, that the man was conscious when picked up and goes on:

"By this time the surgeon had joined me on the quarterdeck and said:

"'Before receiving the man in the sick-bay, sir, I should like to examine him and see if he has any contagious or infectious disease.'

"'Very well, Doctor; I'll have the man brought here, and you may examine him as you think best. I'll not interfere.'

"The boat was hoisted level with the deck, and the man was passed out, and carried forward by two stout sailors, and brought before the surgeon.

"'Can you stand up?' said the surgeon.

"'Yes, sir,' said the man; and at a sign from me, the two men put him on his feet and let him stand up. He was a man of middle size, with a short brown beard; apparently about thirty-five years old. He had on a shirt and a pair of trousers.

"Have you any contagious or infectious disease?' said the surgeon.

"'No, sir.'

"The doctor put his hand on his pulse and said:

"'Open your mouth.' The man opened his mouth, and it looked healthy except that his tongue was swollen.

"'How long have you been in the water?' said the surgeon.

"'Nearly three days, sir.'

"'How long since you've had any food?'

"'Just three days ago to-night, sir.'

"'How long since you've had any water?'

"'Same time, sir.'

"'Do you feel any special pain or distress in any part of your body?'

"'Well, I feel pretty tired, but I'm all right,' was the sturdy reply.

"He was carried below, and I shall never forget the feeling of admiration with which I looked at this man, so calm and self-possessed after passing through such an ordeal. In my experience I have never known his nerve to be equalled."—EDITOR.

The Blighting Boat Tax

THE so-called luxury tax of 10 per cent on yachts and small boats, says the *Marine Journal*, has failed to bring in a tithe of what its sponsors expected of it, and has placed a blight upon the boat building business of the country. Members of the Congressional committee which framed the law imposing this tax assumed that it would yield about $1,000,000 to the government in 1919, and twice as much in 1920. They attached little weight to the testimony of experts who told them the tax would not yield $100,000 a year. One well informed witness from New York told the Committee that the greatest annual output of yachts and boats in this country in any one year was valued at about $3,000,000 and that the normal annual output was between $600,000 and $750,000.

The accuracy of the latter estimate is proven by the collection of the tax for 1919, which will show not more than $75,000 gleaned by the government from the boat builders, while the net amount remaining after deduction of the cost of collection would be an interesting figure . . . One especially objectionable feature of the tax is that it is levied on the builder's price, but when collected by a broker or dealer, its amount reveals the cost of building the boat and therefore the dealer's or agent's profit—knowledge to which the buyer is not entitled.

Taken altogether, therefore, it would appear that this blighting tax is a good one to wipe from the statute books.

The Junks of China

By "QUERINUNCUS"

PART II

THE Chinese say: "Female beauty is a pearl upon the hand," and a graceful yacht upon a summer sea in all her loveliness is a sight that makes the pulses of a yachtsman throb with pleasure.

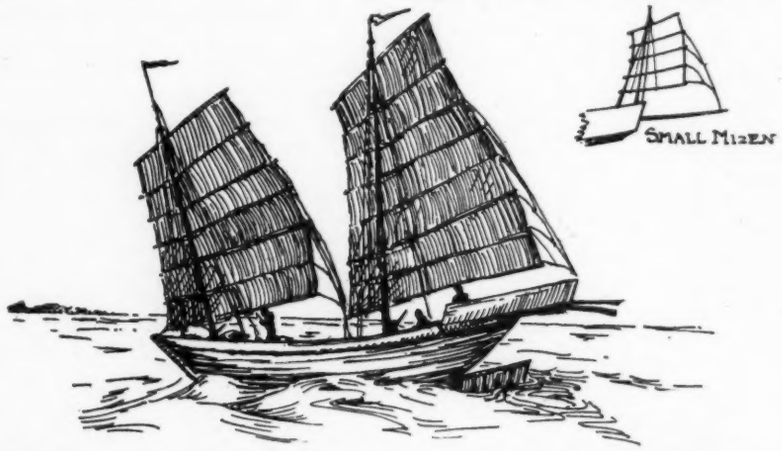
Can the sight of a junk stir the pulses of the impassive Celestial in the same way? Perhaps. But as far as the Westerner is concerned the native craft of the China seaboard leave him quite unmoved, as a general rule. If not unmoved, he may be stirred only to wonder that the wit of man could evolve such strange and curious craft. There is, however, a certain quaintness, and indeed to some minds a distinctive charm in these vessels, like the smell of joss sticks in a temple or the hot glamour of the East under the hard glare of a pitiless sun. As the eye becomes accustomed to their unusual appearance, something more than quaintness begins to make its appeal. True, no Chinese craft display those sweet lines that spell speed combined with seaworthiness, but some do show a proportion and seemliness of design that is not without its appeal to Western eyes.

Of these the Hong-Kong trawler stands first. I have stood on the hills of the Island of "Fragrant Streams," looking down upon a sapphire sea, and watched the fleet of brown vessels beating back to harbor against the northeaster, each with a bone in her teeth. It is a beautiful sight. As the sun sinks behind them, the vessels turn from brown to black, and the sea from sapphire to opal, while the sky flames with all the brilliance of a sunset such as is seldom seen in England.

These vessels merit a closer inspection for they are taut and seaworthy craft and are full of interest to the appreciative eye. As they ride at anchor in Lyemoon or Shau-ki-wan or lie beached upon the mud flats at low tide, there is every opportunity to study them at close quarters while their motley crews grin amiably over the gunwale.

The Hong-Kong fishing junk is a two-masted vessel and is larger than most European trawlers. The sketches show her general characteristics, such as the high square poop, the winches alongside the masts, the curious way in which the masts are raked and, lastly, the rudder.

The large square rudder is hung on a tackle and can be adjusted for depth or raised completely when the vessel is beached. In fact, it is used in much the same way as a centreboard, though the vessel is balanced so that only a part of the lateral pressure is taken by the rudder. The observant critic will at once appreciate that a junk usually carries a lot of weather helm but for some reason or other she is not, in actual practice, as heavy on the hand as one would expect. This peculiar rudder is a feature of all Chinese junks except some of those hailing from the North, where the blade of the rudder is pivoted like a leeboard.



The Hong-Kong trawler is an able and seaworthy craft. The small mizen is used when the trawl is down and the mainsail lowered

There is a quaint feature that is worth comment, the rudder is perforated with a series of diamond-shaped holes. Consumed with curiosity, I once approached a stalwart Hakka enjoying his pipe in the cool of the evening and enquired the reason.

"Why, to let the water through, Heaven born!" was the reply, and I have no doubt that he considered the "heaven born" several kinds of fool not to appreciate a simple little fact like that.

The little thumbnail sketch in the corner shows a small mizen which can be set up on the poop. In some junks this is a prominent feature but as far as the Hong-Kong trawler is concerned it is not used when cruising and can be dismantled. It is usually set when the trawl is down and the mainsail is lowered.

A word or two is due to the other junks which are met with up and down the China coast, though they have not the same attractions nor are they as modernized as those of Hong-Kong. Junks vary in characteristics according to the port they hail from. The junks of Amoy have peculiar double stems, which are distinctly unsightly. What the reason for this may be it is impossible to fathom. Probably the difficulty of bending the timbers with primitive appliances has something to do with it. The Chinese are also the most conservative race on earth and though they may have both the knowledge and the modern appliances, they will often adhere to ancient usages. "Blong olo custom" is considered a sufficient explanation in all cases.

The Swatow merchantman is a large three-masted junk, but as she is the most hideous vessel that ever waddled through the sad sea waves it would be cruelty to attempt to inflict her portrait upon a long-suffering reader.

The crews of Chinese junks are as quaint as the vessels themselves. The junk is usually a family affair and the vessel itself is family property. The family is the social unit in China and grandpa, grandma, two married sons, their wives and bevies of little brown children comprise the crew, who all live on board from year's end to year's end.

It was for this reason that the suffering and destitution in the terrible typhoon which swept Hong Kong in 1906 was not so great as it might otherwise have been, though many thousands of these hardy and simple seafaring folk perished, for in many cases the whole family was lost in the wreck of what had been both their home and their means of livelihood.

It is impossible to write on anything connected with the China seas without mentioning typhoons. These circular storms sweep the seas every summer and it is worth pausing to describe some of their effects. Not

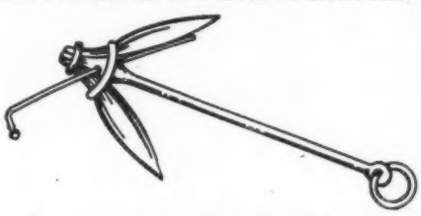
all of them inflict damage—some spring up and die away at sea—nor is the same place visited by them every year, though the fringes of many may sweep the coast. "A lash from the tail of the dragon of the sea," as the Chinese would say.

The word Typhoon is derived from

The Hong-Kong junk has a curious rudder

the Chinese *tai fung*, meaning "great wind." Any nautical book of reference will contain a description of them but it is difficult to realize their appalling ferocity without actual experience. Some idea of their capabilities will be gathered from a few bald facts: ten thousand people were drowned in two hours and twenty ocean-going steamers dragged from their anchorage in a landlocked harbour and helplessly driven ashore in the typhoon of 1906. The wind pressure is as great as that felt in a fast aeroplane and it is impossible to stand or even to crawl on hands and knees. The gravel, whirled up like dust, cuts the face in a way that the homely safety-razor cannot hope to emulate. To talk of sheets of corrugated iron blowing about like paper sounds like a sailor's yarn but it is perfectly true and I have seen a sheet cut a fir tree in half. Nothing that floats can be guaranteed to weather the full force of a typhoon even at sea and special shelters are built for the smaller craft in most of the harbors.

As might be expected of a people who live amid such unpleasant possibilities, nothing that makes for the seaworthiness and safety of their craft is neglected. Naturally, then, the Chinese anchor is an efficient one.



The stock of the Chinese anchor goes through the crown

Contrary to European practise, the stock is in the head and the flukes are leafshaped. As a matter of fact, most Chinese ideas are contrary to European practice but this does not always make them less efficient. In some ways the Chinese anchor bears a strong resemblance to the modern patent anchors, though it is neither modern nor patent. As will be seen from the sketch, its peculiar design is by no means repellent to the sailor's eye. I saw one made by a Chinese boat builder in Hong-Kong in which the flukes were hinged in such a way that when the collar at the head was removed they could be folded flat to the shank. It was one of the neatest of folding anchors for a small yacht that I have seen. There was also some device to prevent the collar which kept the flukes open from being dragged off on the sea bottom; unfortunately, as this was just after the annual race meeting, I was unable to indulge in one and give it a practical trial.

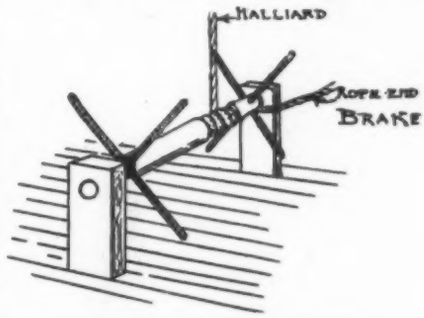
Talking of anchors, many people have poured scorn upon the seamanship of St. Paul's sailors who "cast four anchors over the stern." Yet this is exactly what the Chinese do upon a lee shore. It is done in the ordinary course of beaching a junk and also in an emergency. The reason is that it is easier to warp a junk off stern first. The high poop is also some protection from the seas, and the sharp prow bites into the sand and holds the vessel fast for unloading.

The gangplanks used for unloading are launched off a flat platform built over the bow and the coolies with their bamboo carrying poles pass up the starboard gangway and down the port one. The decks on either side of the hold can be cleared, leaving a free gangway for the coolies, but when at sea a Chinese winch is shipped alongside the mast. This winch is used for hoisting the sails, and with it the quick reefing mentioned in the last article is carried out. The winch is primitive but ingenious. The four spokes are manipulated with the hands grasping the upper ones and the foot pressing down the descending spoke. The barrel of the winch is about level with a man's thigh. A bowline on the running end of the halliard tackle is slipped over one spoke and the rope coils on to the barrel of the winch in the ordinary way. A short rope's end made fast to one stanchion and coiled around the inner end of the barrel acts as a brake when easing away.

It is a most interesting sight to watch a junk on a gusty day: the men at the winches holding back on the rope-end brakes, easing out one, two or three reefs as a gust heels her over and then laboriously hoisting the sail again when the gust is past. As may be imagined, they are extraordinarily clever at gauging exactly the right number of reefs to let down. It can be described in no other way, for it is simply a matter of lowering the sail and the reefs automatically settle in the bights of the topping lifts.

The same winch is used for raising the anchor and, indeed, for all the heavy work aboard ship. It is hardly likely that such a winch would supplant the beautiful little brass outfits which adorn a modern yacht, but it may be that some who read these lines will themselves go "out East" one day. From the deck of the great liner as she steams up the Sulphur Channel they will see with the eyes of understanding and perhaps have a little sympathy to spare for the "heathen Chinee."

There is one little makeshift which might be of practical use to English yachtsmen and that is the semi-circular canvas awning which roofs the cabin of the sampan. This awning is a familiar sight on all sampans and is seen in Chinese sketches and on the familiar blue "willow pattern" plates. A yacht, a small 22-footer with an open cockpit, was fitted with one of these, so that it was possible to spend a night on board in comfort. Two pieces of split bamboo were bent over into arches and the ends trimmed down to fit into four sockets for row-



The winch, used for all heavy pulls

locks on the deck. Over these arches was lashed a canvas awning stiffened lengthways with bamboo battens. The result was to convert an open cockpit into a cosy little cabin with plenty of headroom. On a week-end cruise the awning was erected as soon as the yacht was anchored for the night and the mainsail stowed but on the sampans it remains as a permanent feature except in heavy weather. When not in use, the bamboo arches straightened out, the awning was rolled up and the whole contrivance stowed away forward alongside the sweeps under the fore deck.

Those who visit China will find many other things to interest them among the native craft such as the bamboo hawsers, for instance.

And not only will the shipping interest them, but the ancient civilization of the Chinese is full of delightful surprises, though it has stood still since the days of our Queen Elizabeth.

It will be borne in upon them that John Chinaman is not nearly such a fool as he looks, but he hates you to realise the fact.

Some Recent Sales and Charters

MANY sales and charters have been made recently, particularly yachts for use in Florida, and there will be more and larger yachts in commission in these waters this winter than ever before. Next summer there will without question be a great demand for yachts as much interest has already been shown in the America's Cup races.

The 250-foot steam yacht *Noma*, built from designs by Tams, Lemoine & Crane several years ago for the late W. B. Leeds, has been sold for Vincent Astor to Mr. Rodman Wanamaker. The *Noma* is now in South Brooklyn being thoroughly overhauled after her two years of war service. She bears the distinction of being one of the few American yachts entitled to wear a star on the funnel for having sunk a German submarine.

Mr. R. K. Cassatt's houseboat *Gadfly* has been chartered to a well known yachtsman and will be in southern waters this year.

The shallow draft houseboat *Weona II* has been chartered to Mr. Charles A. Schieren.

The motor yacht *Degrasse* has been chartered for Mr. Johnston L. Redmond to Commander J. K. L. Ross.

The sloop yacht *Pontiac* was sold for Mr. Henry Carson, Jr., to Mrs. J. M. Forbes, who also bought the motor yacht *Gleam* from the consolidated Shipbuilding Co.

The 125-ft. houseboat *Palisades*, one of the largest of the shallow draft houseboats suitable for use in Florida, has been sold for Mr. G. W. Perkins to Mr. Van Lear Black and chartered for the entire winter to Mr. Rodman Wanamaker. She has been rebuilt and re-engined and will be at Miami and Palm Beach this winter.

The 90-ft. motor yacht *Freelance* was sold for A. C. Thompson to Ogden Reid. She has been re-named *Porpoise*.

The sloop yacht *Neith* was chartered for Mr. B. R. Stoddard to Mr. E. D. Morgan.

The 100-ft. motor yacht *Indian* was chartered for Mr. Joseph Van Vleck, Jr. to Mr. R. T. Crane, Jr.

The motor yacht *Kalmia* was chartered for Mr. O. C. Grinnell, Jr. to Mr. Henry T. Sloane, and for Mr. Sloane to Mr. E. F. Sanderson.

The houseboat *Day Dream* was chartered for Mr. J. W. Minturn to Mr. J. Steward Barney.

The well known racing schooner yacht *Virginia* was sold for Mr. L. F. Crowfoot to Mr. H. G. S. Noble. She will be a welcome addition to the racing fleet on Long Island Sound next season. She has been in eastern waters for the past two or three years.

The 70-ft. schooner yacht *Simitar* has been sold for Miss E. M. Sinclair to Mr. F. F. Carey and will be raced in Long Island Sound this coming season. Mr. Carey used to own and race the schooner yacht *Cygnet*.

The *Yankee* has been sold for Mr. A. G. Bean to Mr. R. F. Chambers.

When the Politician Represents the Public

THE special representative of the public at present is supposed to be the politician. The trouble with him is that he may be honest, but is usually non-expert—and may do more harm to the public than he does good.

A recent case in Oregon illustrates this. A statute has been passed there requiring that all gasoline shall be 56 degrees gravity Baumé, to be salable in that State. Now all gasoline marketed by the Standard Oil Co. outside of Oregon has a Baumé gravity of approximately 54 degrees. No greater efficiency can be obtained by the consumer from gasoline of 56 degrees gravity than from the gasoline regularly refined and sold in other states. On the contrary, the gasoline furnished in California and Washington, and elsewhere, gives better results in power and mileage than the gasoline which must be especially made for Oregon. The quality of gasoline of the usual grade (54 degrees) conforms to the specifications prescribed by the United States Government in its purchases.

Gravity is not a correct measure for the quality of gasoline; the accepted standard is its range of boiling point. The report of the United States Fuel Administration Committee says: "There are no gravity limitations in the specifications for aviation gasoline nor in the specifications for motor gasoline, because it has been found that gravity is of little or no value in determining the quality of gasoline."

What was in the mind of the legislators who put this statute through for Oregon? Its effect will be to require the special manufacture of the gasoline sold in that State—and a resulting advance in price, and the supply for Oregon will be affected by the fact that general stocks of gasoline of a lower gravity will be unavailable for consumption in Oregon.

So that the legislature, undoubtedly expecting to benefit the public, has loaded it up with burdens and inconveniences.

We can imagine the political mind groping around for some method of getting credit with the public and arbitrarily raising the gravity from 54 to 56 on the general theory that nothing is too good for the public.

—*The Bache Review.*

A Question of Sportsmanship

Here is a letter from one of our subscribers that raises an interesting question:

"A and B are joint owners of a 38 foot sailboat (sloop). As B did not have the time, A went on a cruise with two of their friends. During this cruise the boat struck a rock and was damaged, the cost of the repairs amounting to $150. At the time of the accident A was at the helm. However, on account of the increasing darkness, he requested the other two men to keep a sharp lookout and to advise him if anything looked wrong, being close to the shore.

"A question has been raised who has to pay for the repairs. Has A to bear the cost alone or have A and B, as joint owners, to bear the cost, or can the two men whom A took along be asked to share part of the cost of the repairs? Take into consideration that A could not handle the boat alone but had to rely on the assistance of his friends, who therefore are just as responsible for the accident as A, if anybody can be blamed at all. All three men shared equally all the other expenses of the trip."

To this we made the following reply:

"Regarding the case of damage to the sailboat, we assume that you do not wish us to pass upon the question of law or ethics, but merely on the sportsmanlike way of handling the matter. Our own crowd would act as follows: As A, B and C shared the expenses of the trip, they would naturally share in the cost of repairing the damage. B, who did not make the cruise, would not be called upon for any part of the expense. B, however, being a good sportsman, would probably insist on paying for a part of the bill for damages, which offer the other three would without doubt refuse."

Lectures for Yachtsmen

New York Athletic Club Yachtsmen and the U. S. Power Squadron announce a series of eleven illustrated lectures on navigation and small boat handling to be held at the clubhouse, 59th St., and 6th Ave., New York City, Monday evenings at 8 o'clock commencing January 19, 1920. *No charges of any nature.*

Galleys of the Sixteenth Century

BUT now to return to the war-galleys, on board of which, as we have already seen, the slaves were chained to close order, the benches sometimes having rudely stuffed sacking cushions, covered with hides. There would be five, or even six, upon a bench ten or eleven feet long. Each man was attached to a foot-board by a chain, and an iron band riveted to the ankle. The benches were so close that, as one row pushed forward the loom of the oar, the oar and arms of the row behind them were over their bended backs. The looms were so large that most of them had to seize grips, bolted in, but the end was tapered to manageable size, and the slave who was stationed there was always the strongest and biggest of the bench, was captain of the oar, and directed the others. He also got the most strokes from the "nerva di bue" when they wanted more "steam." This strokesman was called, in the lingua franca, "vogarante." Next to him in importance was the next to the gunwale,—posticcio. The third and fourth were called terzarolo, quartarolo, and so on.

The most important oars, of course, were the stroke, or after pair, and they had crews picked out for their strength and skill. The captains of these stroke-oars were called spallieri, from spalle, the rear benches, and the best of the two was captain of the starboard oar. The next oars in importance were the two forward ones, but, for some unknown reason, they were called conglie, or rabbits, and their crews coneglieri. The captains of the stroke-oars were exempt from all labor but that of rowing, while their crews were excused from other hard work, and employed in keeping the poops in order, serving the officers, and other light duty during their stay in port. The captains and crews of the coneglie had the care of the anchors, hawsers, cables, and other matters of that kind, and were also excused from the daily tasks in connection with cleaning ship, wooding, watering, and breaking out and stowing the hold, as well as work in the dock-yards.

The comito had immediate charge of the slaves, with his mate and the slave-driver under him. His mate and the agozzino were posted along the gangway at intervals, so that they could see any slave who skulked at his oar. The oars were seldom unshipped while in commission, except for repairs, but were "cock-billed" by a "toggle" when the galley had a strong leading wind. Oars were put in motion and stopped by the silver whistle of the comito, or boatswain, and he and his mates were armed with a heavy "nerve di bue," such as is mentioned in Gil Blas and many other contemporary works, and which may be bought to-day in any Italian town.

When, on any emergency, the galley-slaves had to be worked for many consecutive hours, and to the point of exhaustion, when blows were of no avail to keep up their efforts, bread sopped in wine was stuffed into their mouths by these officers as they pulled; and if a slave sank down exhausted, he was whipped until it was evident that he was not shamming, and was then taken out and thrown into the hold, or sometimes, if he was evidently dying, into the sea. But it was the interest of the captain to keep his crew in fair working order, and this was the only cause of alleviation of their miserable condition.

When the slaves were cast loose for other work than that of the oar the individual chain was attached to a manacle, so that they were never clear of irons. Their heads and beards were kept close shaven, for obvious reasons, but little other attempt at cleanliness of person seems to have been exacted. The Moors made the best slaves in the sixteenth century, and Marteilhe says they were the best in the French galleys of two hundred years later. The Turks were not much in favor, while the negroes were the worst, many of them dying of sheer melancholy. No particular mention is ever made of the criminal class, who were treated like dogs, and no doubt behaved like wild ones.

The usual ration was less than two pounds of dry biscuit and water. On alternate days soup was served, made of three ounces of beans and a quarter of an ounce of oil for each man. But often, especially when at sea, there was no soup, partly on account of the difficulty of cooking in such a craft in a sea-way, and partly because such luxurious fare was supposed to make them heavy and dull at their work.

Much of the water must have been carried somewhere on deck, for Don John was detained in Spezzia, when in haste to sail to the relief of Tunis, by having his water-barrels injured in a summer storm, which only damaged his spars and rigging.

Knavish contractors made the slaves' bad fare worse, and sickness from this cause is known to have often crippled the Venetian fleet, as well as some others. Four times a year the ciurma had meat and wine, and we know, from Marteilhe's description, that this custom was kept up until the galleys disappeared from the sea. The volunteers were allowed, when in port, to go about the galley during the day with a manacle on, but were always chained up again at sunset. They were shaven, like the rest, except the mustache.

The gang were all clothed alike, the volunteers at their own expense. Each was supposed to have two shirts and two pairs of linen breeches, a red woolen frock, a red cap, a pair of summer socks, and a heavier pair for the winter. They had also a pair of shoes for work on shore, and a heavy felted woolen capote. Each bench was allowed two blankets. These things must have been kept under the benches, for no lockers or chest were allowed; but probably, amid such a congregation of thieves and cut-throats, personal property was only secure while being worn.

There is a picture, in the gallery at Amsterdam, of the sinking of some Spanish galleys off Gibraltar, in 1607, by the Dutch fleet under Heemskerck, in which the galleys of the time are very well shown. The slaves, with their shaven heads, are very closely packed upon the benches, and the soldiers stand upon a narrow platform running round the side over the gunwale. The poops are covered with an arched frame work, to receive an awning, and two guns are mounted on the forecastle.

Besides the easy harbor work given to the stroke oarsmen, whose place was due to their strength and skill, there were some few other preferences shown the wretched creatures who formed the chiurme. Each galley had its band of trumpets, and there was much emulation in regard to this music. There were often as many as eight trumpeters, and each of these received one-half the daily ration of a volunteer. Others who had the care of the boat, who waited on the messes, and who acted as clerk and as hospital steward, received the same ration as a volunteer. There were also some special servants to officers, and sometimes one was allowed to trade in a petty way, the officers sharing in the profits and winking at extortion, as we know from the practice being specially forbidden in the instructions to the commanders of the galleys of Spain in 1603. Other abuses are mentioned in the same instructions, in which it is directed that if any convicts or slaves escaped, the officers in charge were to supply others at their own expense; or, if that could not be, were to take their place at the oar. It is likewise or-

dained that more wholesome food is to be furnished the slaves; and it is forbidden to employ them during the winter in port in any other than the naval service. Convicts for crime and volunteers were to be promptly discharged at the end of their term of service; and gentlemen were no longer to be punished by being sent to the galleys, "on account of the inconvenience arising from the practice."

Each galley was to be furnished with eleven thousand ducats for its annual expenses, and one thousand more for extraordinary uses. This money was to be kept in a chest with four keys, and disbursed with care, under fixed rules. No merchandise or excessive baggage was to be allowed on board, and care was enjoined to keep the arms in order, and to see that there was no extravagance in the wear and tear of flags, and in gilding, carving, and painting the poops. The admiral of the fleet was to be allowed eight servants, but these were to be mustered and serve, on occasion, among the able-bodied soldiers, of whom forty were allowed to each galley. The chaplain was charged to see that the officers and men led Christian lives; was to confess them and preach to them, and report their conduct to the chaplain-general. Cases of heresy were also to be reported, but they were warned not to allow men to affect heterodoxy to escape from the oar, and be sent for trial on shore. The idea that chances of the Inquisition might be preferred to the life of the galley, shows what a hell the latter must have been.

As in every slave-gang there were men of many different tongues, all had to learn the different orders or calls: and they soon learned them too, or they were beaten to death. In addition to the nerva di bue, they used as means of punishment the hoops of hogsheads and "salt eel's tail"—a common name for a rope's end in that and many more modern navies.

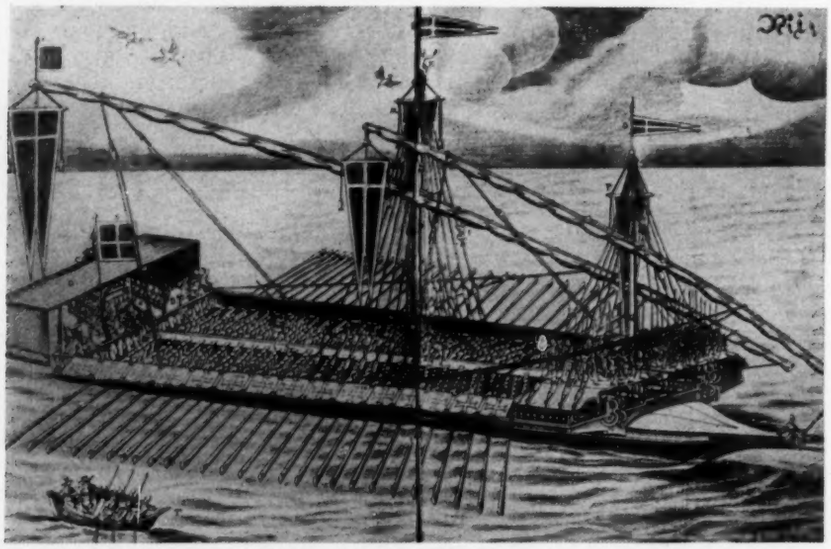
Pantera advocated hospital-ships for every fleet, as we have seen the Venetians had, for the reason that many good and valuable rowers were often lost for the want of proper treatment.

He also thought, and gravely advanced the opinion, that the best plan for recruiting rowers for the galleys was to establish gaming-houses at seaports, "where dexterous persons of good address should, simply and without connivance at fraud, lend money to all men who desired it," and when they lost more than they could pay, arrest them, and put them in the "galleys as volunteers"—"whence," he adds, "people so entrapped frequently come out better than they went in."

Pantero Pantera was a naval officer of the Pope's service, and we may naturally suppose that he was somewhat more scrupulous in his ideas than the officers of mere secular powers.

Crescencio, also a papal naval officer, expounded, in his "Nautica Mediterranea," a very simple and beautiful plan by which a renegade who happened to have command of a Turkish fleet (such as Uluch Ali), when in presence of a Christian force, and, being repentant, is anxious to earn restoration to the bosom of the Church, could easily do so. The idea was for this commander to send a secret and peremptory order, at the same time, to the captains of all his galleys, commanding each one to cut off, instanter, the heads of his comitos and their mates, on the plea that they had been detected in intriguing with the enemy. "When this shall have been done, the fleet will be like a troop of horse whose bridle-reins have been suddenly cut; and a signal may be made to the Christians to sail in and take possession." This passage shows where the real control of the slaves lay, and would be like cutting off the non-commissioned officers of an English regiment.

Perhaps some other ships and regiments, in other services, might be similarly embarrassed.



A Mediterranean galley, with five men to each of her long oars. Guns are mounted on her bridge-like forecastle and soldiers stand on the shelter deck above the battery

Chapter II

THE Turks constructed, manned and officered their strong fleet after the *Ponentina* or Western fashion, much as they hated the types they copied; and they had in their dockyards many employees who were Christians, most of them Venetians. These were attracted by the pay, which was said to be as much for four months as the same shipwrights could earn in a year in the arsenal at Venice. Sometimes the foreign workmen in the Turkish shipyards struck on account of wine being forbidden but an increase of wages generally led them back again to work. The principal yards were at Pera and Gallipoli. The vessels built were very short-lived, from the green timbers used and the rough work. They were built very cheaply and often very quickly, as the sultan would have his fleet equal in number to any other. The Turkish officers were brave enough and quite observant of the Western improvements in tactics and inventions and many of them were as anxious as any Christian officers to improve their fleet in any way. It was in seamen that they were principally deficient as their crews were mostly peasants, raised by conscription, to whom the sea was a horror. But the Porte was always ready to entice into its service the Greek subjects of Venice and especially any banished Venetians. The Porte was so successful in this that the Venetian ambassador to the Grand Turk recommended that captains of vessels trading to the Archipelago should be made responsible for the return of their crews and that no lad under sixteen should be allowed to make the Levantine voyage at all; while, instead of exile, some other punishment should be iadcted.

The sultan always hnifl plenty of slaves for the oar, from the chronic warfare always existing between him and one or other of the Christian states as well as from the piratical habits of the Turkish cruisers who did not at any time make a very nice

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distinction between nominal friends and actual foes. The dominion and resources of the Porte were very great and Venice was always inclined to temporize and to keep on friendly terms with the Grand Turk until really driven to bay by ill-treatment, contumely and losses. It was, indeed, said of her that she subsisted as much by policy as by arms, "it having been her practise, ever and anon, to sew a piece of fox tail to the skin of Saint Mark's lion."

Indeed, the calculations of commerce guided the whole foreign policy of the Venetian republic. "In the days when the limb of a martyr was as good an investment as a picture or a diamond is now, she would cheerfully pay vast prices for relics for the ducal church of St. Mark. But Dandolo and his senate, in the thirteenth century, would by no means embark in the fourth crusade until they had made with the barons an advantageous bargain, securing to Venice half the profits that might accrue from their projected attack upon the Greek and Saracen."

But we are turning away from our subject and must return to the Turkish fleet of this period.

They had some heavy ships and very many galleys and abundance of the smaller craft, then called brigantines and frigates; but they had not, at the time of Lepanto, made much use of heavy ships. Certainly there were none in their fleet at that great battle, perhaps the greatest naval action the modern world ever saw.

In the weight of metal and in the art of gunnery the Turkish navy was at that time inferior to the Christian. A Turkish vessel of that time seldom carried more than three pieces of artillery. There was a traversing gun, throwing a ball of about twenty-five or thirty pounds, which was usually placed amidships, with two smaller guns, 15- or 20-pounders, on each side. Her fighting men were still, for the most part, armed with the bow instead of the arquebus or musket. But the archers, generally Candiotes, were so skillful that they could discharge many arrows while an arquebus was loading. There were many Venetians of the time of Lepanto who regretted the disuse of the bow, an "excellent weapon which gave little trouble."

Roger Ascham says that the Turk was suffered by God to punish the Christians' naughty living by his (the Turk's) good shooting. He says that the Turkish youth are brought up to the bow and that the Grand Turk's personal guard were bowmen. He goes on to remark that the Turks often conquered by their bows when the Christians had no use of their guns "by reason of the rayne," instancing Charles the Fifth's misadventure at Algiers through the violent storm of rain which fell, "when his great hoost was sore handled wyth the Turkish arrowes, when his gonnes were quite dispatched, and stode him in no service, by cause of the raine that fell; where as, in such a chaunce of raine, yf he had had bowmen, surely their shote myght peradventure have bene a little hindrede, but quite dispatched and marde it could never have beene."

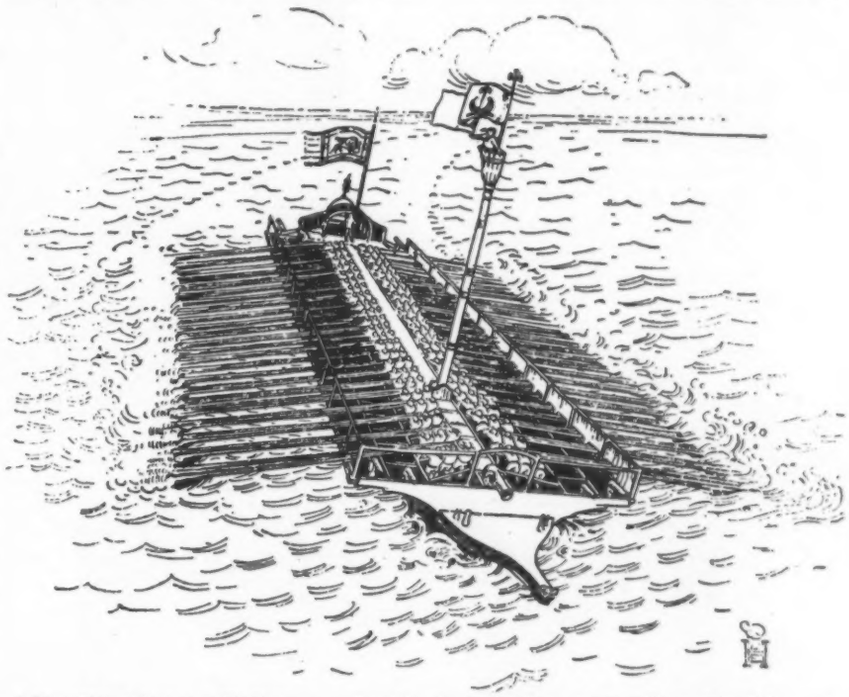
The translator of Ælian's "Tactices," in 1631, laments the English bow: "For us to leave the bow, being a weapon of so great efficacy, so ready, so familiar, and, as it were, so domesticall to our nation, to which we were wont to be accustomed from our cradles, because other nations take themselves to the musket, hath not so much as any show of reason."

He then goes on to argue that the bow can be more easily carried and managed, is less exposed to harm from weather, can be more quickly discharged and can be used by the same number of men in a company at the same moment. Of the "fire-weapons," he says, "their disadvantages are, they are not always certain, sometimes for want of charging, sometimes through over-charging, sometimes the bullet rowling out, sometimes for want of good powder or of dryd powder, sometimes because of an ill-dryd match, not fit to cock, or not well cocked. Besides, they are somewhat long in charging, while the musketeer takes down his musket, uncocks the match, blows, proynes, shuts, casts of the pan, casts about the musket, opens his charges, chargeth, draws out his skowring-stick, rammes in the powder, draws out again and puts up his skowring-stick, lays the musket on the rest, blows of the match, cocks and tries it, guards the pan, and so makes ready."

Lest we should be tempted to smile at this passage, it behooves us to remember how short the time is since a squad of marines could be seen solemnly going through the manual of "Load in twelve times! Load!" Was it not a test of a well drilled guard that they all "cast about" together, and that the "skowring-sticks" all went down at the same time?

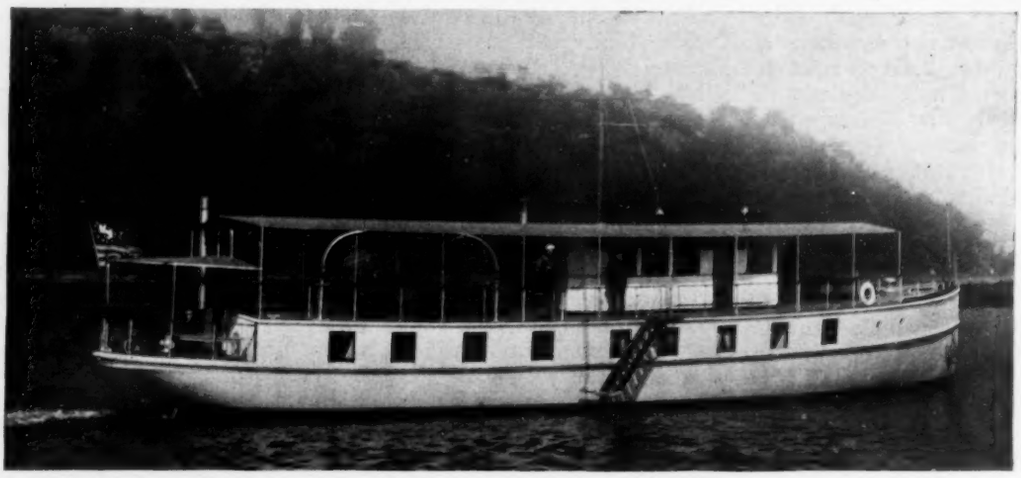
Captain John Bingham goes on to say that "all such actions must necessarily be observed if you will not fail of the true use of the musket." And this is just what old Sergeant Cartridge used to say when he was drilling at "load in twelve times." The writer adds, "In raine, snow, or fogs, or when the enemy hath gained the wind, they (the muskets) have small use. Add that but one rank, that is the first, can give fire upon the enemy at once. For the rest behind, discharging, shall either wound their own companions before, or else shoot at random, and so nothing endanger the enemy, the force of a musket being only available at point-blank."

The Highlanders, who came down in the "Bishop's War" of 1640, had, as their chief weapons, bows and



A Venetian trireme, with three men to a bench, each man, apparently, pulling his own oar. Archeologists insist that this was the method used in the ancient triremes, though it does not appeal to the sailorman

(Continued on page 36)



A New Houseboat

MURELETT is 85 ft. over all, 19 ft. beam and 3 ft. 6 in. draft, and is an ideal craft for cruising in Northern or Southern waters. The yacht is under charter to Mr. J. Stewart Barney of New York City from October 15th to February 1st. Mr. Barney left New York on October 15th to spend considerable of the time in the Chesapeake Bay and Albemarle Sound, while the month of January will be spent in Florida.

The owner's quarters in *Murelett* consist of five state rooms, two of which are double state rooms. There are three bath rooms. The deck house is used as dining room with the galley in the after end of the deck house.

The main saloon is spacious, well lighted and attractive

The owner's stateroom is finished in white enamel and extends the full width of the boat

The engines are abaft amidships, the crew's quarters making up the balance of the boat. *Murelett* is electrically lighted throughout, and is heated with hot water. There is running hot and cold water to all fixtures.

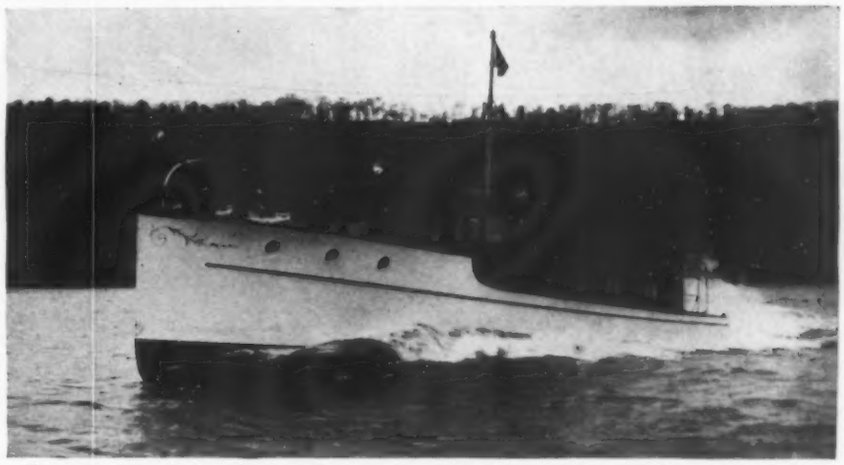
The interior of the boat is finished in white enamel with mahogany furniture; the furnishings are excellent and a full cruising equipment is carried including a power tender.

The house boat *Murelett* was built by the New York Yacht Launch and Engine Co. of Morris Heights, N. Y., they having built two of these houseboats during the past summer.

Two Fast-Stepping Motor Cruisers

ONE of the most attractive express day cruisers at Miami this season will be Mr. J. H. Nunnally's new *Toxaway*. She was designed, built and powered by the Consolidated Shipbuilding Corporation, Morris Heights, New York and delivered early in November.

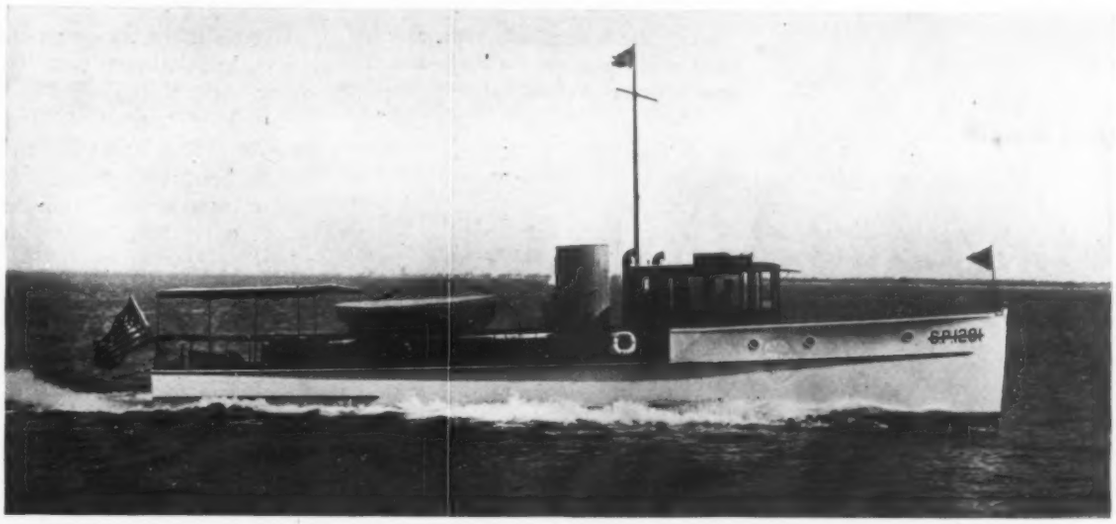
While the *Toxaway* is really a day cruiser she has accommodations for four, exclusive of the crew; has a cruising radius of 500 miles, and is capable of doing better than 27 miles per hour. She is 52 feet long, with a beam of 11 feet and a draft of 2 feet 9 inches.



Toxaway is a day cruiser with a speed of 27 miles. She can accommodate four on extended trips as she has a cruising radius of 500 miles.

A feature of this new boat is the deckhouse, entered by doors on the port and starboard sides. An athwartship seat is located aft; forward is the helmsman's position where the steering wheel, control levers, compass and chart case are located. A drop leaf mahogany table is arranged to occupy the center of this room which, when used, converts the deckhouse into a dining saloon. Steps forward, on the starboard side, lead to the galley, the equipment of which is modern in design, including a large ice box arranged to fill from the deck. Forward of the galley, the crew's quarters are arranged, fitted with pipe berths and seats with drawers under on either side. Abaft the deckhouse the engines are located. Two eight-cylinder 200 H. P. Speedway Model M gasolene engines drive the boat at a speed of over 27 miles per hour. A copper gasolene tank of 400 gallons capacity is located under the deckhouse between watertight bulkheads. Next aft are the owner's quarters, entered from the cockpit by a sliding hatch and companionway. Built in berths are arranged on either side of the owner's cabin, with lockers over fitted with leaded glass doors; large wardrobes are located forward on either side. The room is panelled with mahogany. Forward of it, the owner's toilet room is arranged, finished in white enamel with fixtures of the latest design, including a bath.

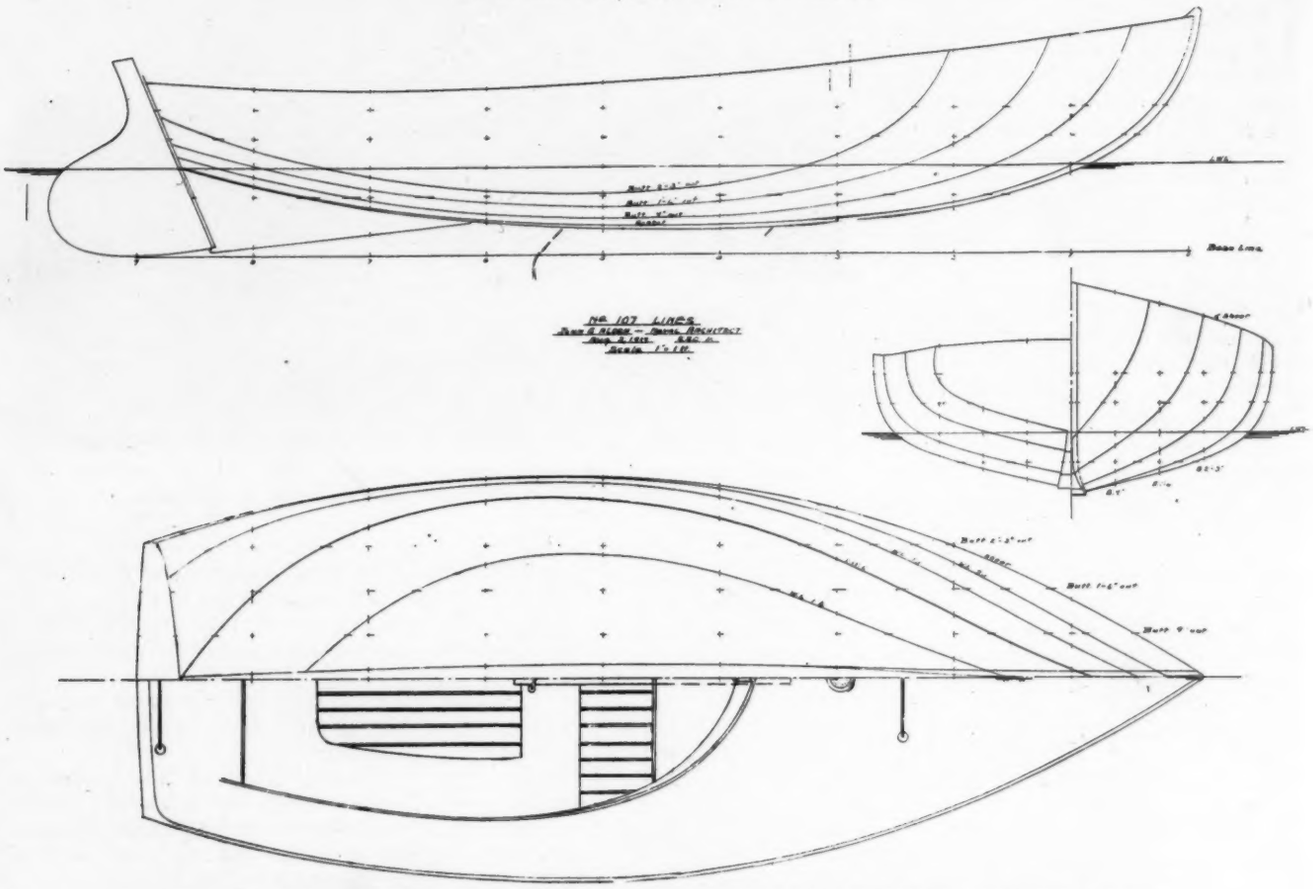
The cockpit is of the self-bailing type, with its deck finished bright. It accommodates four on the athwartship seat aft and has room for four or five wicker chairs.



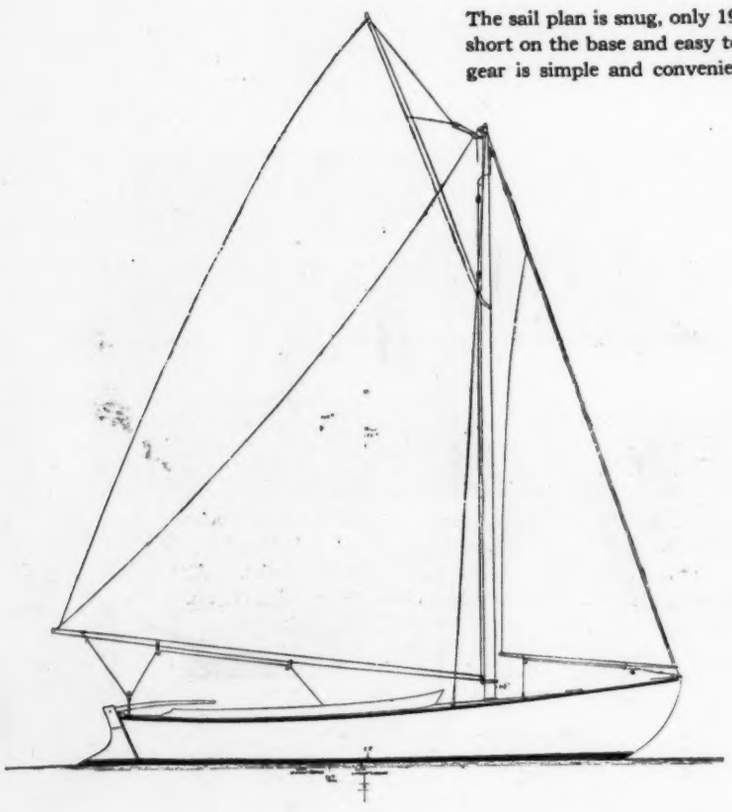
Snark is one of the eight patrol boats built at Bristol in 1918 by members of the Eastern Yacht Club. At that time all information about them was suppressed by the censor. They were designed by N. G. Herreshoff and A. L. Swasey and are 62 feet long, 11 feet beam and 3 feet 6 inches draught. Although of the round bilge type, their two 200 H. P. Sterlings drive them 25½ miles an hour. Snark, which was S. P. 1291, has recently been bought by Mr. Carll Tucker of New York.

A Handy Little Knockabout

From the board of John G. Alden



The lines of Mr. Alden's little knockabout show promise of speed and seaworthiness combined in a form that should be easy to build

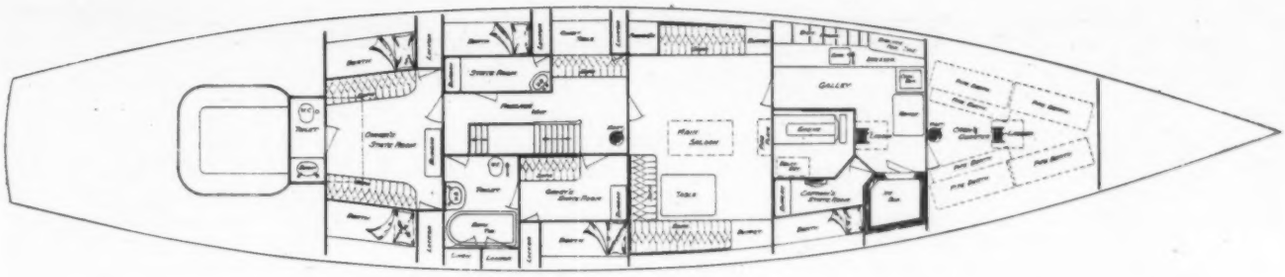


The sail plan is snug, only 196 square feet, short on the base and easy to handle. The gear is simple and conveniently arranged

Herewith are the plans of a centerboard knockabout that is quite a "tidy little ship." She is 18 feet 6 inches long overall, 15 feet on the waterline, and 7 feet beam. She will carry about 900 pounds of ballast. Her sail area is small and well inboard being only 196 square feet. Her model somewhat resembles that of the *Merla*, a keel sloop 23 feet over all which was illustrated in our issue of October, 1919, but has more beam in proportion to length.

The boat has a cockpit as large as that of the average 21 foot knockabout and there are wooden bulkheads forward and aft that make her unsinkable. Her lines are easy, she looks like a good little sea boat and should be able to go out in any kind of summer weather. With her short boom, reefing will be an easy job.

At present prices such a boat could be built for about $600. Several yacht clubs, the designer tells us, are considering building a class of one design boats to these plans. Such a move would promote interclub racing.



An Auxiliary Schooner

WE ILLUSTRATE herewith a 64 foot waterline auxiliary schooner designed by the Luders Construction Co. She is 93 feet overall, 19 feet beam and draws 11 feet. A boat of this size has a fine sweep of deck and is big enough to have a comfortable low deckhouse with its platform sunk below the level of the main deck. Cushioned seats on each side and heavy plate glass windows make it a very cosey place in cold or boisterous weather. It makes a good place in which to take off one's wet oilskins before going below. Aft there is a steering cockpit, forward of which is a box skylight over the owner's stateroom.

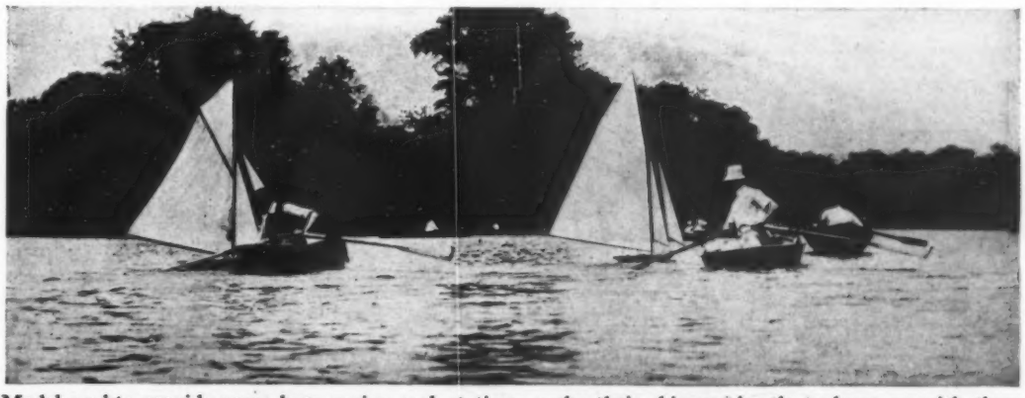
The space below decks has been worked out to good advantage. The owner's stateroom is aft with a toilet adjoining it, and extends the full width of the boat. There is a wide berth each side with a seat in front of each, and lockers, bureau, etc. Forward of it, on the starboard side are a bathroom and a guest's stateroom. On the port side there is another guest's stateroom, forward of which there is a chart table outboard with a sofa in front of it.

With her straight sheer and pole masts this auxiliary schooner is a trim looking craft.

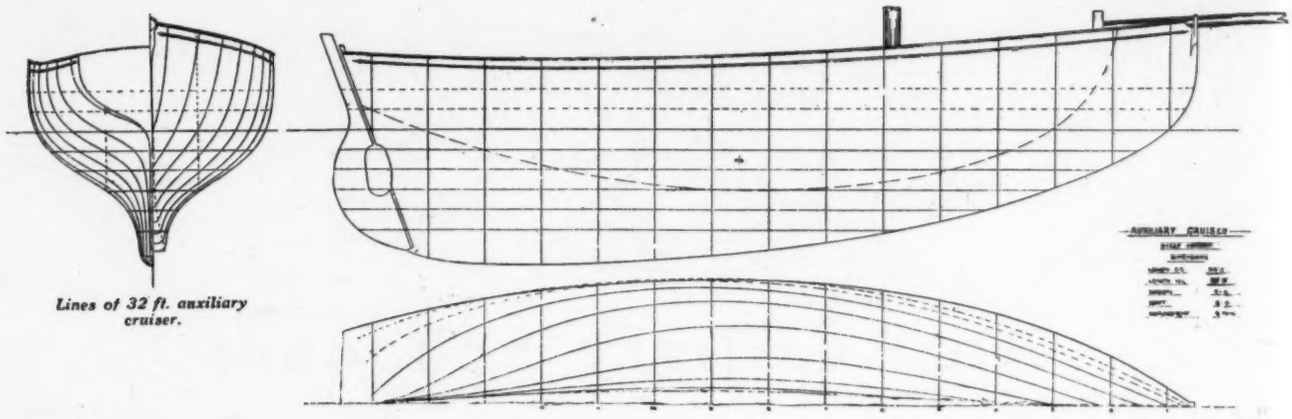
Just forward of the mainmast is the after bulkhead of the main saloon. This room extends clear across the ship and is 10 feet 6 inches long. A fireplace is set against the forward bulkhead and outboard on each side are the usual sofas and buffets. We note a modern touch, for in the port after corner of the saloon space is provided for the phonograph.

The engine is placed just forward of the forward saloon bulkhead and is set to one side of the center line. With the electric lighting plant, it is entirely enclosed by bulkheads. The captain's stateroom is placed on the starboard side with a large ice-box forward of it and the rest of this compartment is devoted to the galley. Forward of the galley is the forecastle, with pipe berths for six men.

The sail plan shows rather a straight sheer and a moderate amount of canvas. Main and forebooms are kept well up off the deck and the designer has adopted pole masts. The bowsprit is rather short and the mainboom does not extend far over the stern, giving the rig a short base line. An auxiliary, however, does not need the large rig that would be fitted to an out and out sailing craft.



Model yachts provide some keen racing and at times make their skippers hustle to keep up with them.



Lines of 32 ft. auxiliary cruiser.

A British Auxiliary

(Courtesy of Motor Ship and Motor Boat)

THE little cruiser illustrated herewith shows how widely British ideas differ from ours. She is designed by Summers & Payne and a British contemporary comments on her thus:

"However popular full-powered motor boats may become, a considerable portion of those who take their pleasure upon the water will prefer the sailing yacht fitted with an auxiliary motor, and to such we would commend the careful consideration of the design on this page.

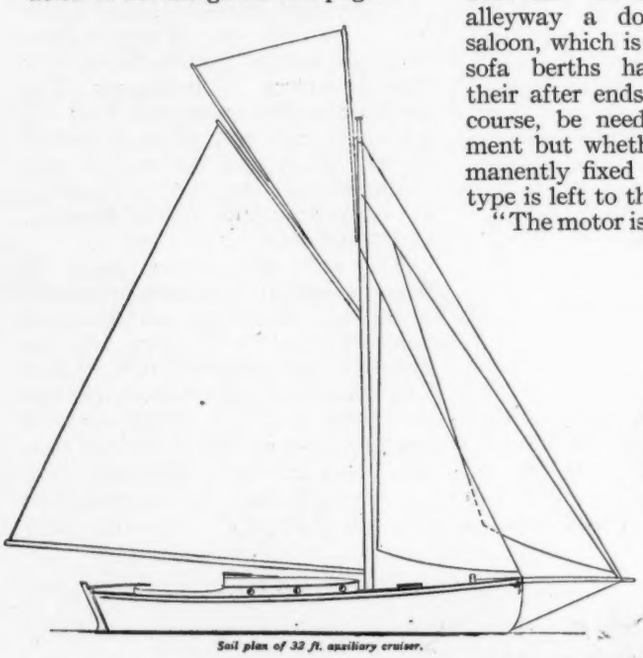
"The length proposed is 32 ft. overall, with a waterline of 29 ft. 9 ins., while the breadth is 9 ft. 3 ins. and the draught 5 ft., these dimensions giving a displacement of 9 tons. Right in the eyes of her is a cupboard, then follows the forecastle, this compartment having the usual locker seats on each side and, at the head of them, a chain locker. Next aft comes a compartment having a lavatory on the starboard side and a pantry to port, with an alleyway in between. At the after end of the alleyway a door opens into the saloon, which is fitted with the usual sofa berths having sideboards at their after ends. A table would, of course, be needed in this compartment but whether it should be permanently fixed or of the collapsible type is left to the taste of the owner.

"The motor is fixed below the cockpit floor, excepting for the cylinders, which project through and are protected by a wood casing. The reversing lever stands up through the floor at the after end of the latter, where it is within reach of the helmsman.

"Although the cabin top is very moderate in height it affords 6 ft. of headroom in the saloon—a liberal allowance with a draught of only 5 ft. It will be noted that the forefoot of this vessel is only moderately cut away, which form gives better qualities for cruising than a short keel and pronounced overhang. The propeller is shown on the center line with a gap for it cut partly in the sternpost and partly in the rudder. A side installation could, of course, be fitted if desired, but with the contour of forefoot shown the steering qualities under sail should be quite good in spite of the propeller aperture. No particular type or power is specified for the engine, these points being left over for settlement by the purchaser.

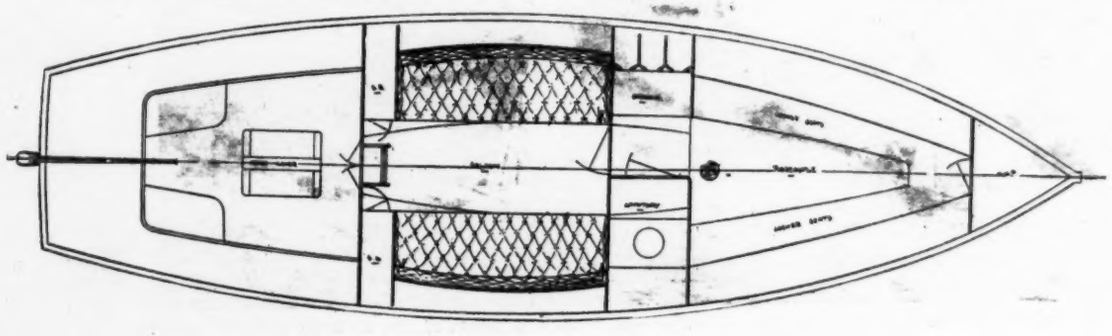
"A full sail plan is shown, as will be seen from the illustration, the total area being 842 sq. ft.

"With a cot forward the cruiser would carry in comfort the owner and a friend with a paid hand, or three amateurs, while she could be sailed single-handed if necessary. The object of the design is to obtain a wholesome seagoing cruising yacht which will be handy and economical to work."



Sail plan of 32 ft. auxiliary cruiser.

The boat resembles in profile an old time English cutter with her stern chopped off short. The sail plan looks small to American eyes.



The cabin layout is the conventional one but the saloon seems cramped and the forecastle unduly large.

When Freighters Were Built for Speed

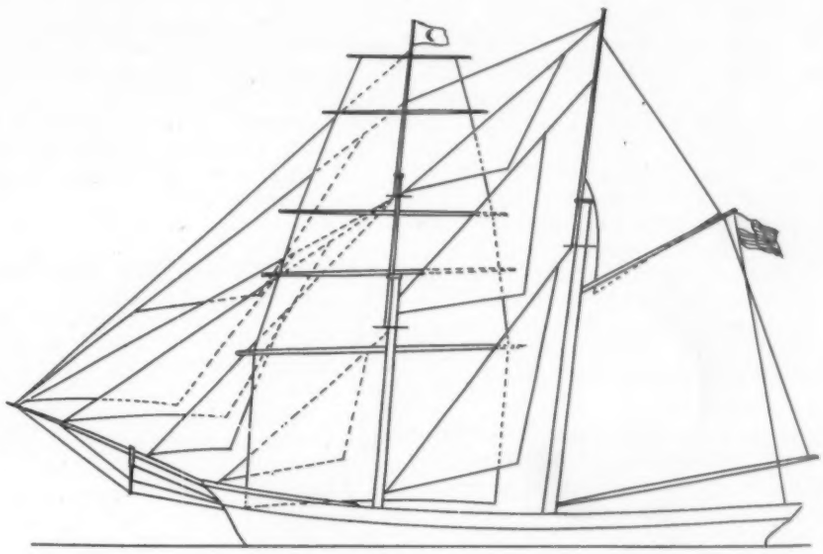
A fast-sailing little cargo carrier of the days when Yankee ships were in their prime

WE HAVE been delving into the past and have brought up for illustration this month a little merchantman built toward the close of the clipper ship era. The *Newsboy* was modeled by P. J. Lawlor, a boatbuilder of Chelsea, Mass., and built by Capt. Elisha Brown at Owl's Head, Maine, at the mouth of the Penobscot. She was launched in June, 1854, and sailed on her first voyage August 20th.

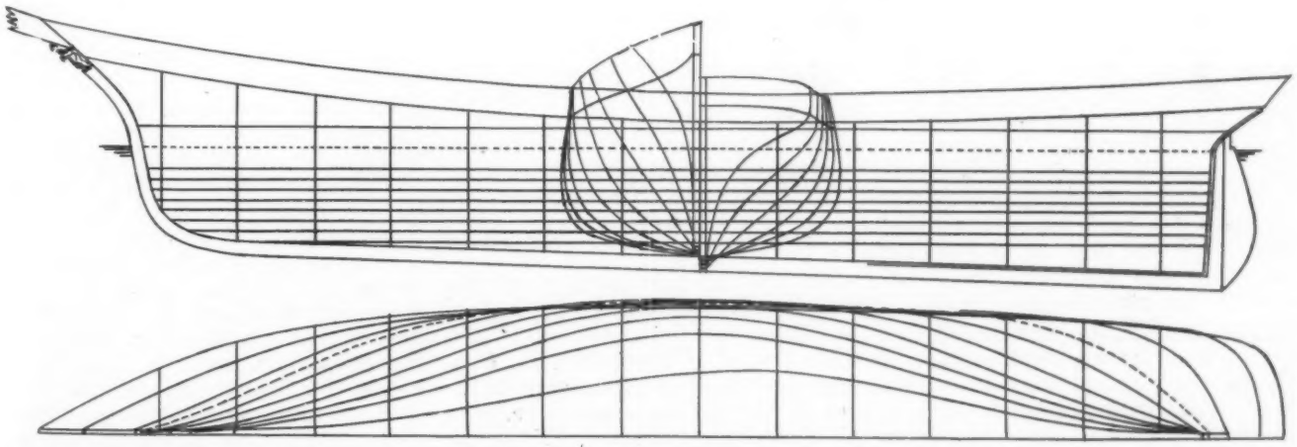
A contemporary says of her: "She is not only a favorite with her owners, but also with Capt. Leckie who commands her. Having earned a reputation for speed by wringing reluctant laurels from her competitors who have chanced to fall in company with her at sea, she has proved herself well adapted in utility of outfit, economy of space for comfort and convenience, as a despatch vessel, for the service for which she was intended. Her cost was about $20,000. We are not advised whether this was the first effort of a boat builder; but be that as it may, the immersed lines may be studied to advantage by shipbuilders. If we were so disposed, we could have but little fault to find with her bottom. Speaking in general terms, her appearance above water might be improved somewhat. She does her designer no discredit. . . . This fine vessel exhibits a model of no ordinary stamp and furnishes additional proof that experience alone is not a reliable standard by which to judge of the altitude of a man's scientific attainments in the line of his profession."

The plans of the *Newsboy* scale just under 120 feet overall and 103 feet on the waterline. Her extreme beam is 26 feet and her draft 13. Her log shows that she left Fayal, Azores at 3 P. M. on May 18th, 1855, and picked up a Boston pilot at 5 P. M. on June 5th. There are many entries of light breezes and the prevailing winds seem to have been westerly, though she was able to lay her course a good part of the time. Her best day's run was 207 miles from noon to noon. The entry in her log for that day begins: "A fine breeze from N. N. E. and thick cloudy weather. All drawing sails set; on our course. Middle part, strong breezes. Ends strong breezes and clear weather; hard luck, as the wind is keeping us in the Gulf Stream."

The lines of the *Newsboy* are far different from the cargo boxes of to-day. In those days of sharp competition and high freights a builder could afford to sacrifice cargo space for speed, something his successor cannot do to-day.



The Newsboy was a hermaphrodite brig. This was a favorite rig for craft of her size as it could be handled with a smaller crew than were needed on a full rigged brig and was almost as fast. The rig was also better for deep water voyages than the schooner



The lines of this little cargo carrier are very interesting. Her midship section was quite full but she was fined away at the ends and her clean run and hollow bow suggest the famous clippers that raced around the Horn or carried the Chinaman's tea to London

A New Kind of Chain

A NEW kind of anchor chain has made its appearance and it is the direct outcome of war needs. As a result of the tremendous expansion in shipbuilding in the United States there has naturally followed a corresponding greater need for chain for anchors for these new ships. It has heretofore been the custom to use for such purposes wrought iron chain, either hand or steam hammer welded. But it was soon found that the present wrought iron anchor chain-making capacity of the country was equal to only about thirty-three per cent of the new demand.

The old wrought iron chain has always been made by welding together as links round bars of various sizes into a chain of any desired length and dimension. Steel chain has been tried in the past, but it was not found satisfactory. It was either too ductile to keep its shape under stress or too brittle or hard to insure durable welds when united in the shape of chain.

The new problem to find a suitable chain was a difficult one, one that needed immediate solution. Steelmakers and foundry men have solved the problem in a most interesting and commendable manner.

The result is a cast steel chain, or one that is poured of steel in sand molds, similar to any steel casting. Chain of almost any size or length for anchors is now being made successfully and commercially of cast steel. It is possible to pour the links all at once into a continuous chain or to pour separate links and then pour the complete chain by putting these in alternate molds and pouring the intervening one in and around these. Large orders have been placed and are now being filled for this new type of chain, known as electric cast steel anchor chain.

It is called electric because a special type of steel is used which is made in the electric furnace. Its composition is not made public, but it is a simple alloy steel. Since the material in such chain must be of the highest quality and because electric steel is the best made, the steel used is electric. After being poured in the form of chain it is shaken out of the molds and then given a special heat treatment which imparts to it its highest possible qualities. Such chain has been severely tested and it has been found to be very strong and durable under shock and stress of the severest kind.

Old Glory's New Motor

MR. G. P. P. BONNELL, father of the *Old Glories*, holds the honor of placing the first bona fide order for a J. V. B. engine.

Mr. Bonnell happened to meet "Nick" Rost, who is selling the J. V. B. engines in New York, on the street the other day and mentioned he was going to put a new engine in *Old Glory*, for the 1920 season and wanted Nick's advice as to the best motor to use.

In about ten minutes the world's champion motor-boat nut had signed a formal order for a J. V. B. four-cylinder engine to be installed in the 24′ Hand "V" bottom cruiser, *Old Glory*, the boat which has made so much history in the past and which Mr. Bonnell promises to make even more in the future.

It is understood that Mr. Bonnell will have delivered to him the medium speed model of the J. V. B. Engine, rated at 28-38 H. P. and that it will, of course, be completely equipped in all details, as are all J. V. B. Engines, the equipment including a Leece-Neville two-unit electric starter with a 60 ampere hour storage battery, a Schebler Carburetor, a Simms Magneto and the special J. V. B. sliding gear transmission type of reverse gear.

Indian Harbor News

At the annual meeting of the Indian Harbor Yacht Club held December 13 the following officers were elected: Commodore, D. Graham Smythe; vice-commodore, Richard A. Monks; rear commodore, John D. Chapman; secretary, S. Christy Mead; treasurer, Richard Outwater; directors, Sanford Robinson and Ralph E. Slaven, terms expire 1922, and R. A. C. Smith, Mr. Chapman and Mr. Mead to serve until 1921.

Final plans for the new club house to replace one destroyed by fire recently were selected and work will be started at once.

It was voted that the club challenge the Eastern Yacht Club of Marblehead, Mass., for the William N. Childs trophy in class R yachts. One of the preliminary races between the *Resolute* and *Vanitie* is to be held off the local course.

The Royal Canadian Yacht Club of Toronto has challenged for the Manhasset Bay Challenge Cup, now in the possession of the Indian Harbor club. The challenge will probably be accepted.

The Skipper's Book Shelf

AMONG the books which may be of interest to yachtsmen and might well be a part of a yachtsman's library is one entitled *Splendors of the Sky*, by Isabel M. Lewis, very recently published by Duffield & Co.

The book consists of some forty-four chapters of seven or eight pages each, giving a popular treatment of the subject. The first part deals with the sun, moon and planets and the latter half with the stars. An examination of the chapter headings will quickly show the breadth of treatment of the subject and the interesting possibilities of the chapters. The author's style is very clear and not unduly concise. She exhibits a great capacity for stating scientific matters in a way readily understood by the average reader. There is also much interesting information for those well acquainted with astronomical matters. She has evidently kept track of the latest developments in astronomy.

Among other chapters may be particularly mentioned Spiral Nebulæ, The Life of a Star, A Dwarf Star Hotter than the Sun, The Story of a Runaway Star, and the Wonders of Orion. The book contains a number of well chosen photographic illustrations.

There are few books containing such a mass of information so interestingly set forth.

Winton

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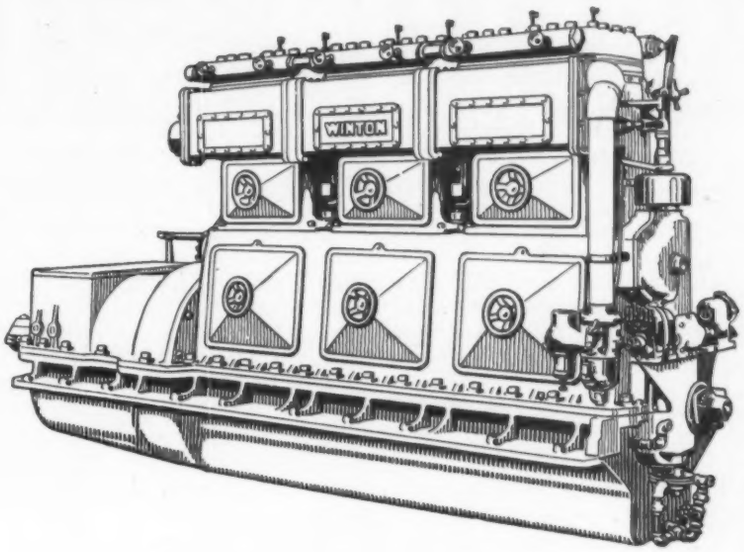

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ENGINES are fascinating. Every red-blooded man and nearly every woman likes to see them in action—to know how they look and how they run. And how pleasing to a yacht owner to be able to take his guests into his engine room on a tour of inspection and show them a sturdy, masterful, quiet power plant in an engine room as clean and spotless as a bride's kitchen.

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Some Racing Results for Nineteen-Nineteen

EARLY in 1918 the Cleveland Yacht Club was in the hands of a receiver and had about 200 members. In that year a membership drive was started and 1,500 members secured. In 1919 there was another successful campaign and the club's membership was brought up to over 2,500.

A number of races were held this past season for power boats and sailing yachts. Races for the class championship of the club were sailed on May 21st, June 21st, July 4th and September 7th. There was also a race for the Stars on July 24th, and special races for them on August 30th, 31st and September 1st. The season's standing is as follows: In class R, *Pam* is first with 300 points, *Mebleh* second with 250 points, *Clarice* third with 200 and *Psamiad* fourth with 150. In class J, (16 footers) *Spook* led with 400 points, *Oriole III* was second with 200 points and *Oriole II* third with 66⅔ points. *Fejo* led the Stars with 360 points, then followed *Algol* with 200, *Evening Star* and *Altair* with 160 each and *Pilot* with 100. *Black Cat* was the top of the cat boat class with 300 points, *Bonita* was second and *No. 600* third.

The Gardner Trophy, raced for July 4th, was won by the R boat *Mebleh*, owned by W. R. Huntington. The long distance race from Put in Bay to Rocky River for the Winton Trophy was sailed on July 19th and won by *Mebleh* on corrected time, though the Buffalo sloop *Arvia* covered the course in the shortest elapsed time. *Yank*, of Toledo, was second on corrected time and *Psamiad* took third place.

The class R contest for the Lipton Trophy gave three days of good racing on July 24th, 25th and 26th. On the first day the course was twice around a 6 mile triangle and the yachts finished in the following order: *Clarice, Yank, Psamiad, Pam, Mebleh*. On the first time around *Mebleh, Pam* and *Yank* were becalmed near the finish line. The second race was sailed over a windward and leeward course, three miles to a leg and twice around. *Mebleh* came home first, followed by *Yank, Pam, Psamiad* and *Clarice*. The third race, over a triangular course, resulted in another win by *Mebleh* with *Pam* second, *Yank* third, *Clarice* fourth and *Psamiad* last. This left *Mebleh* and *Yank* tied for first place with 220 points, *Pam* third with 180, *Clarice* next with 160 and *Psamiad* bringing up the rear with 120. *Mebleh* and *Yank* sailed twice around the windward and leeward course on the following day and the Cleveland yacht won by one minute and a half.

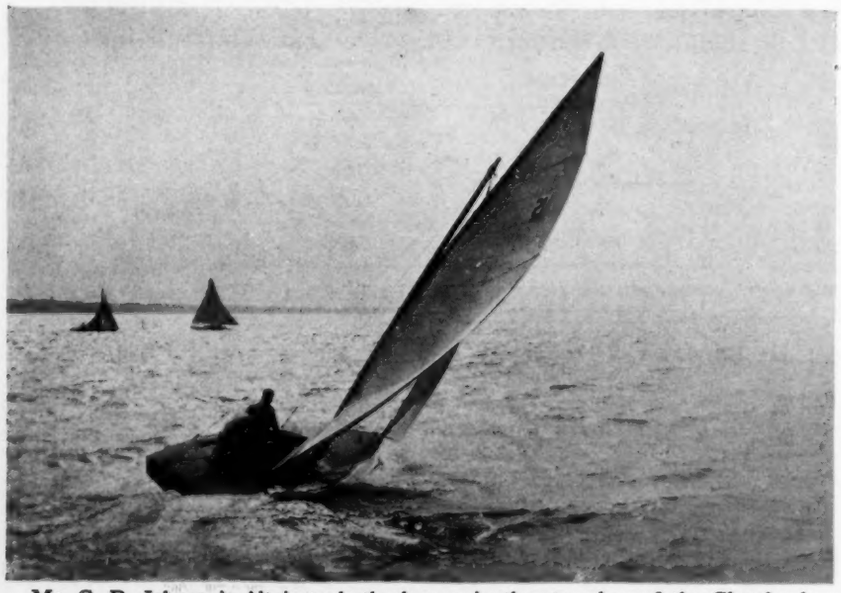
On the same three days as the R boats, the Stars raced for the Walker Trophy which was won by *Altair*. *Evening Star* and *Fejo* were tied for the next place and tossed up, *Evening Star* thus winning second. *Vermillion* was fourth and *See Y See* was last.

On August 23rd, *Clarice* led the fleet in a 30 mile race to Vermillion for the Merchants' Trophy. *Altair* finished second and *Fejo* third. The special Star Class series, August 30 and 31st and September 1st, was won by *Altair*.

The power boats had a busy season and opened with a regatta on May 31st. *Orion* won in class A, open boats under 20 miles speed, and *Gray V* in class B, open boats over 20 miles speed. *Cornelia S.* took the race in class E, cruisers under 40 feet, and *Babo* was the winner in class F for cruisers over 40 feet. *Gray V* won again on June 13th, July 4th and August 3rd. *Hilda* won in class E on July 4th and *Edna* on September 7th. *Jessie A. II* captured the class B event on August 17th, while *Babo* was the winner on the class F races on July 4th and September 7th.

The 112 mile long distance race for the W. H. Scripps Trophy to Put in Bay and return was held on August 9th and brought out 26 starters. *Josephine*, of the Erie Yacht Club, was the winner with an elapsed time of 11 hours 33 minutes and 35 seconds. *Valoria*, of the Detroit Yacht, was second and *Babo* third.

A 42 mile race for express cruisers on August 10th was won by Mr. G. A. Wood's *Gar Jr.* The 30-mile race to Vermillion on August 23rd was a closed event and was won by *Edna* of the cruiser class and *Jessica II* in the open boat class.



Mr. C. B. Johnson's Altair took the honors in the star class of the Cleveland Yacht Club, winning the Walker Trophy and the special series

Yachting About Los Angeles

The season of 1919 and the close of the war brought a considerable revival of yachting to Los Angeles. There are now three flourishing yacht clubs tributary to the city, all housed in their own commodious club houses.

The oldest, the South Coast Yacht Club, still has its house on the bluff overlooking the Watch Horn Basin in San Pedro, now a portion of Los Angeles. This club has always specialized in sailing though there are a number of fine motor yachts in its fleet. This season the fleet has been increased by the addition of Walter Brown's new cruiser. The fast sloop *Detroit* has again gone into commission, having been laid up since 1916 when her mast was carried away.

The club has gladly welcomed home a large number of its members who were in the war and things look much more cheerful. Many fine parties have been given, two squadron cruises to Descanso Beach, Catalina Island, delighted a large number and the stag cruise to Johnson's Landing, also on Catalina, was fairly well attended. The *Winsome* and *Ortona*, the largest yawls in the fleet, made a seven hundred mile cruise to Turtle Bay in Lower California and the club sched-

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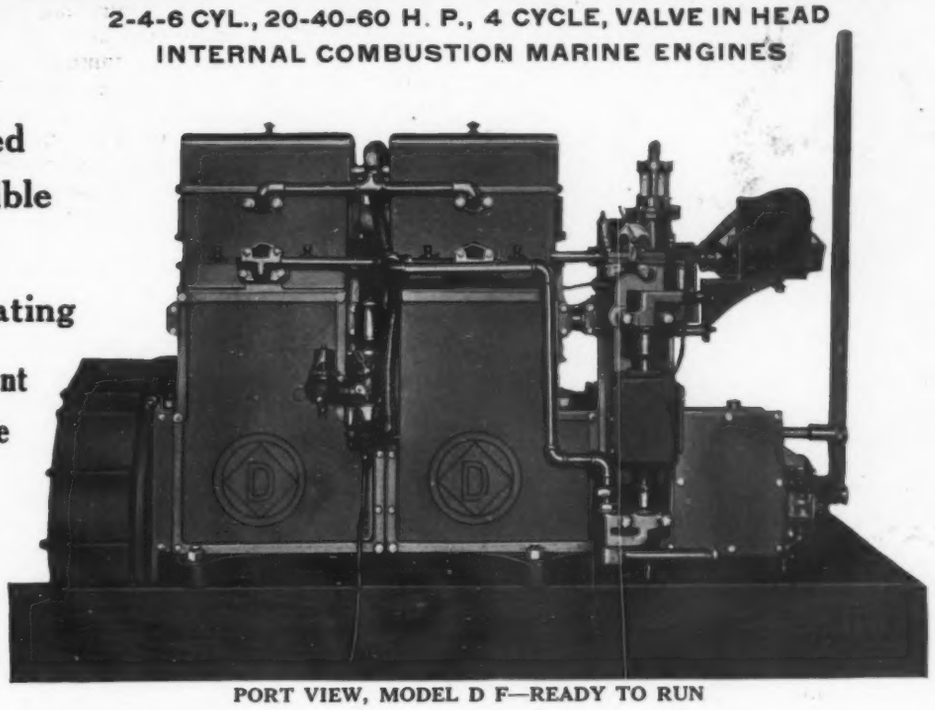

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Mr. A. G. Maddock's Mischief I annexed a number of cups and was a consistent performer in the races held by the South Coast Yacht Club, of Los Angeles, Cal.

uled a cruise to Balboa to visit the Newport Harbor Yacht Club.

A very full season of racing has been carried out, *Mischief I* being unusually successful this season. This speaks well for the seamanship of her new owner, Maddock, and his crew. The list of races for the summer is as follows:

DATE	TROPHY
June 8	S. C. Y. C. Cup—*Vite*
June 14	Nordlinger Trophy—*Vite*
June 14	Special Yawl Prize—*Seamore*
July 4	Santa Catalina Is. Cup—*Mischief I*
July 12	Montgomery Cup—*Vite*
July 26	Times Cup—*Mischief I*
July 27	Seal Beach Chamber of Commerce Cup—*Mischief I*
Aug. 10	Pacific Fleet Committee Cup—*Mischief I*
Aug. 17	Vice Com. Morrow Cup—*Mischief I*
Aug. 24	Santa Catalina Island Cup—*Mischief I*
Sep. 7	Brock Trophy—*Mischief I*
Sep. 14	Rear Com. Beatty Cup—Yawl *Ortona*
Sep. 20	Geo. Jochum Cup—*Vite*
Sep. 21	Hoegee Trophy—*Mischief II*
Sep. 28	S. B. Hayes Cup—*Mischief I*
Oct. 5	Feagan Cup—*Idler*

The Los Angeles Motor Boat Club has its home at Wilmington on the Los Angeles Inner Harbor. Their season was delayed by harbor work around the house and no races were held until late. There were squadron cruises to Catalina Island. The big event of the summer was the welcome to the Pacific Fleet. Nearly every boat in the fleet was out, with all decorations displayed. Dr. Albert Soiland was in command of the squadron and led the way in his auxiliary ketch *Viking III*. After the fleet had anchored, the squadron sailed around them and, following the reception on the committee boat, the party on the Commodore's cruiser boarded the flagship *New Mexico*.

The annual Nordlinger Trophy race occurred on October 25th and 26th and was the fastest and most interesting race in the history of the club. Three new fast boats entered. Dustin Farnum won all three heats and took five cups, besides holding the Nordlinger Trophy for a year. His boat was *Miss Los Angeles*, a Hacker-built boat with 200 H. P. The next competitor was the *Kenupshau*, powered with two 125 H. P. motors. The *Cad-Hill*, a Fellows-built boat, powered with a 150 H. P. motor of the aviation type, was entered by Capt. Geo. R. Hill and C. J. Cadwell. She had steering gear trouble in the first heat but came in third. In the second heat she led them all for several laps when her magneto was put out by water and she was obliged to leave the race. Frank A. Garbutt entered his *Mystery IV* but had engine trouble for the first time in years and did not finish. The *Grey Ghost*, a thirty-foot amateur built boat entered by Vanderberg Johnstone, started out well but developed engine trouble. She was built by the owner from Hand plans on stock frames and powered with a six cylinder 150 H. P. motor.

The Newport Harbor Yacht Club has been the scene of great activity this season. The city of Newport, after completing the jetty, dredged the channel from Newport to the sea. Orange County has voted bonds for dredging and other harbor improvements to the extent of $500,000. The culminating event of the season was the purchase by the club of the large pavilion at East Newport. Several thousand dollars have been raised to remodel and equip the building into the best club house in southern California waters.

Several successful parties have been held, monthly guest cruises have entertained many prospective members and cruises to Lagua Beach and Catalina Island have been very well patronized.

The series of seven small sailboat races for the Potter cup were won by the cat boat *Doris*. Races were held on the Fourth of July and on Labor Day. Frank A. Garbutt and son, Frank E., were successful in two free for all power boat events on the Fourth, one the ocean and one on the bay. *Fellows III* and *Rainbow* were the other nearest contestants. The *Rainbow* is a sixteen foot Hacker model with a 22 H. P. motor but she gave wonderful account of herself and made a spectacular sight on the outside jumping the waves. In the outside Labor Day free for all Garbutt again made first place but was made to go some by the *Myth* brought out from Virginia by Capt. Cecil K. Sherman.

Huguenot Yacht Club

THe Huguenot Yacht Club held its Annual Open Regatta on the 16th of August; unfortunately no photographs were taken during the race.

It may be of interest to note that this club is considering building a one design class of dinghies.

(Continued on page 32)

Intrepid established a record for the Jackson Park Yacht Club course last summer.

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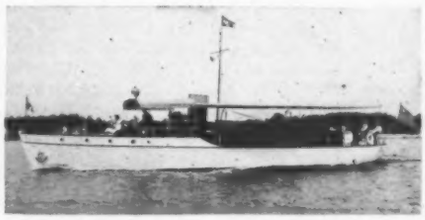
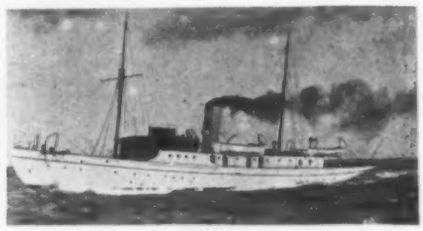


NO. 1561—Modern Cruiser, 60 x 11.9. Six cylinder Twentieth Century Motor. Two staterooms, etc. Apply Wm. Gardner, 1 Broadway, New York.



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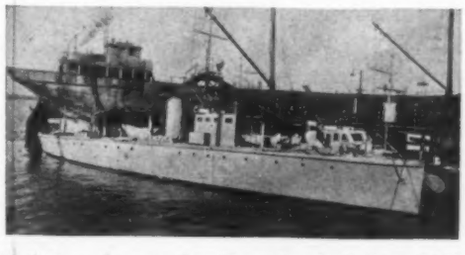

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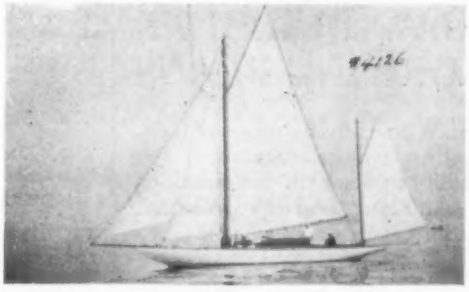

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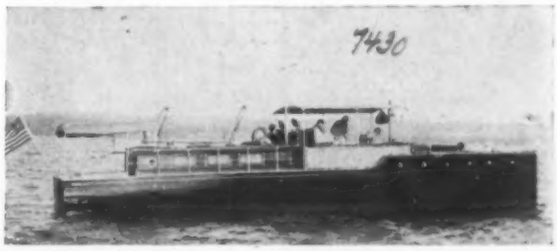

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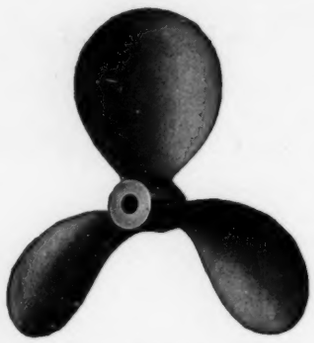

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Some Racing Results of Nineteen-Nineteen

(Continued from page 28)

24TH ANNUAL OPEN REGATTA—August 16, 1919.

Racing Number	Name	Owner	Start	Finish	Elapsed	Corrected	
N. Y. Y. C. 40-FOOTERS, COURSE, OAK NECK TO PARSONAGE POINT AND RETURN							
	Mistral	Ph. H. Mallpry	2.10	5.33.55	3.23.55		Wins
	Shawara	H. Wesson	2.10	5.49.01	3.39.01		
N. Y. Y. C. 30-FOOTERS, COURSE 16½ MILES							
N.Y. 18	*Adois*	Fred Richards	2.15	5.37.23	3.22.23		Wins
N.Y. 19	*Mizpah*	D. R. Richardson	"	5.48.37	3.33.37		
N.Y. 13	*Minx*	T. S. Clark	"	5.39.07	3.24.07		2nd
N.Y. 5	*Lena*	Ogden Reid	"	5.48.46	3.33.46		
N.Y. 12	*Rowdy*	Chas. Belsky	"	5.46.32	3.31.32		
N.Y. 1	*Alera*	F. W. Belknap	"	5.39.48	3.24.48		
HANDICAP CLASS, 2ND DIVISION, COURSE 16½ MILES							
% 6	*Comet*	C. Vanderbilt, Jr	2.25	4.48.45	2.23.45	2.19.29	
% 83	*Veda*	Wm. Lawler	"	4.44.23	2.19.23	2.12.16	Wins
% 2	*Sally IX*	A. E. Black	"	4.44.20	2.19.20	2.19.20	
% 95	*Mignon*	A. C. Fox	"	4.49.12	2.24.12	2.18.51	2nd
HANDICAP CLASS, 3RD DIVISION, COURSE 10¼ MILES							
% 10	*Robin Hood III*	Geo. E. Gartland	2.30	4.51.12	2.21.12	2.21.12	
% 21	*Frances*	S. Wickes	"	5.12.09	2.42.09		
% 8	*Arethusa*	Walters & Ausberg	"	5.13.13	2.43.13	2.38.16	
CLASS U (SONDER), COURSE 10¼ MILES							
U 10	*Wag*	H. J. North	2.30	5.10.30	2.40.30		
U 4	*Feather*	A. G. Clark	"	4.53.19	2.23.19		Wins
U 10	*Mingo*	H. T. Hornidge	"	5.22.05	2.52.05		
U 9	*Tern*	W. T. Hornidge	"	5.05.28	2.35.28		2nd
	Tern protests *Feather*, on sail measurement.						
LARCHMONT INTER CLUB CLASS, COURSE 10¼ MILES							
L.I. 9	*Barbara*	C. Shields	2.35	5.12.05	2.37.05		Wins
L.I. 10	*Sirene*	R. W. Fraser	"	5.15.08	2.40.08		
L.I. 8	*Whiff*	H. Parker	"	5.19.36	2.44.36		
HUGUENOT SPECIAL, COURSE 10¼ MILES							
S. K. 14	*Dipper*	H. H. Van Rensellaer	2.35	5.47.49	3.12.49		Wins
S. K. 2	*Dacoit*	H. C. McCormick	"	6.02.10	3.27.10		
GLEN COVE JEWEL CLASS, COURSE 10¼ MILES							
G. C. 5	*Aquamarine*	C. L. Weyand	2.45	5.42.09	2.57.09		
G. C. 12	*Kat*	C. H. Appleby	"	5.38.50	2.53.50		Wins
STAR CLASS, COURSE 5⅛ MILES							
57	*Hydra*	C. E. Hyde	2.50	4.05.10	1.15.10		
3	*Altair*	E. V. Willis	"	4.01.08	1.11.08		Wins
22	*Shooting Star*	J. B. Shethar	"	4.05.08	1.15.08		
33	*Snapper*	Adrian Iselin, 2	"	4.02.30	1.12.30		2nd
63	*Saturn*	G. W. Elder, Jr	"	4.06.29	1.16.29		
17	*Little Dipper*	G. A. Corry	"	4.05.45	1.15.45		
38	*Banshee*	M. Egerton	"	4.04.31	1.14.31		
36	*Alhena*	A. V. Fraser	"	4.14.48	1.24.48		
NEW ROCHELLE ONE DESIGN, COURSE 5⅛ MILES							
N.R. 1	*Virginia*	A. R. Bastine	2.50	5.19.28	2.29.28		
N.R. 4	*Nereid*	E. Giriat	"	5.11.09	2.21.09		Wins
L. I. SOUND SCHOONERS, COURSE 16½ MILES							
S.S. 7	*Allure*	J. W. & E. P. Alker	2.55	5.19.55	2.24.55		
S.S. 8	*Alicia*	W. M. Baldwin	"	5.18.15	2.23.15		Wins
S.S. 2	*Algol*	W. Fuller	"	5.19.18	2.24.18		
HANDICAP CLASS, 4TH DIVISION, COURSE 5⅛ MILES							
% 27	*Culver*	A. V. Dunbar	3.30	5.12.20	1.42.20	1.41.13	
% 30	*Vigilence*	G. W. Ford	"	5.22.12	1.52.12	1.52.12	
ORIENTA ONE DESIGN CLASS, COURSE 5⅛ MILES							
3	*Scot*	A. K. Griffin	3.35	6.01.00	2.26.00		
5	*Alice*	A. K. Griffin	"	5.47.55	2.12.55		
4	*Thorne*	A. L. Snow	"	5.48.50	2.13.50		
1	*Salty*	Haggerty Bros	"	5.47.52	2.12.52		Wins

New Rochelle Yacht Club

34th Annual Regatta

Racing No.	Name	Owner	Club	Start	Finish	Elapsed	Cor'ted
				H. M. S.	H. M. S.	H. M. S.	H. M. S.
N. Y. Y. C. 30 FOOTERS, COURSE NO. 1, TWICE AROUND, 15½ MILES							
				2.50.00			
5	*Lena*	O. M. Reid	American	.....	6.52.52	4.02.52	4.02.52
18	*Adios*	F. L. Richards	N. Y.	.....	7.04.22	4.14.22	4.14.22
13	*Minx*	T. S. Clark	Sea Cliff	d. n. s.			
12	*Rowdy*	C. Belsky	Harlem	.....	6.48.50	3.58.50	3.58.50*
19	*Mizpah*	D. R. Richardson	American	.....	7.06.55	4.16.55	4.16.50
SOUND SCHOONERS, COURSE NO. 2, 11½ MILES							
				2.55.00			
3	*Moira*	C. Cowl	M. B.	.....	6.42.23	3.57.23	3.57.23
7	*Allure*	J. Walker	M. B.	.....	6.37.50	3.42.50	3.42.50*
2	*Algol*	W. Fuller	Harlem	d. n. s.			
8	*Alicia*	W. C. Baldwin	M. B.	d. n. s.			
P53	*Zingara*	C. W. Atwater	M. B.	Withdrawn			

*Winner

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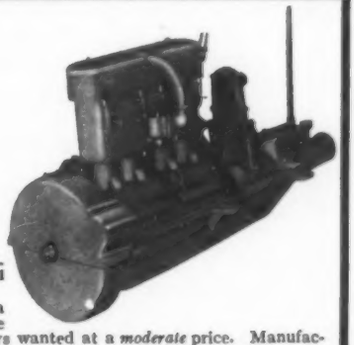

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	Guardia	C. A. Marsland			3.00.00	6.17.57	3.17.57 2.56.39
9982	*Lady M*	E. C. Myrick				5.45.45	2.45.45 2.45.45*
7506	*Scud*	W. H. J. Ealer				6.22.18	3.22.18 3.08.06

HANDICAP CLASS 1ST AND 2ND DIVISION, COURSE NO. 2, 11½ MILES

%25	*Wasaka*	W. L. Courson			3.05.00	6.39.48	3.34.48 3.34.48
% 2	*Gally IX*	A. A. Black				6.33.10	3.28.10 3.19.50*
%83	*Veda*	W. Laurier				6.50.08	3.45.08 3.33.41

LARCHMONT INTER-CLUB, COURSE NO. 2, 11½ MILES

9	*Barbara*	C. Shields	N. R.		3.10.00	6.49.22	3.29.22 3.39.22
1	*Lecygne*	A. Walter	Harlem			6.50.28	3.40.28 3.40.28
10	*Sirene*	R. W. Fraser				6.40.53	3.30.53 3.30.53*
8	*Whiff*	H. Parker				6.50.36	3.40.36 3.40.36
11	*E'Bar*	L. Lockwood	I. H.			6.41.43	3.31.43 3.31.43

HANDICAP CLASS 3RD AND 4TH DIVISION, COURSE NO. 2, 11½ MILES

%10	*Robin Hood*	Geo. Gartland			3.15.00	6.49.57	3.34.57 3.34.57
46	*Arcadian*	F. E. Raymond				6.49.50	3.34.50 3.28.23*
8	*Arethusa*	Walters & Arnburg				6.50.50	3.35.50 3.34.46
%21	*Francis*	S. Wickes				7.01.32	3.46.32 3.16.28*

CLASS U—COURSE NO. 2, 11½ MILES

10	*Mingo*	H. T. Hornidge	M.B.		3.20.00	6.40.22	3.20.22 3.20.22*
9	*Tern*	W. T. Hornidge	Sea Cliff			6.49.55	3.29.55 3.29.55
4	*Feather*	Allen Clarke				6.50.38	3.30.38 3.30.38

SPECIAL CLASSES, COURSE NO. 1, 7¾ MILES

44	*Bool*	N. D. Brown			3.20.00	6.33.02	3.13.02 3.13.02
7	*Mermaid*	Leo Friede				6.21.50	3.01.50 3.01.50*

STAR CLASS, COURSE NO. 1, 7¾ MILES

33	*Snapper*	A. Iselin, 2nd	M. B.		3.30.00	6.19.10	2.49.10 2.49.10
18	*Big Dipper*	J. R. Robinson	Bayside			6.02.40	2.32.40 2.32.40
63	*Saturn*	G. W. Elder	P. W.			5.56.36	2.26.36 2.26.36*
17	*Little Dipper*	G. A. Corry	M. B.			6.00.00	2.30.08 2.30.08
22	*Shooting Star*	J. B. Shethar	M. B.			6.02.12	2.32.12 2.32.12
1	*Taurus*	W. L. Inslee				6.00.20	2.30.20 2.30.20
62	*Southern Cross*	A. Knapp, Jr				6.27.42	2.57.42 2.57.42
47	*Maia*	B. L. Linkfield				6.00.00	2.30.00 2.30.00
3	*Altair*	E. V. Willis				5.58.28	2.28.28 2.28.28
57	*Hydra*	C. E. Hyde				6.19.20	2.49.20 2.49.20
6	*Ario*	G. Abbott				6.01.50	2.31.50 2.31.50
38	*Banshee*	M. Egerton				6.05.46	2.35.46 2.35.46

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4	*Nereid*	D. Giriat			3.35.00	6.27.15	2.52.15* Wins
1	*Virginia*	A. R. Bastine				6.36.11	3.01.11

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1	*One Bell*	J. H. Hack			3.35.00	6.53.18	3.18.18
3	*Three Bells*	E. F. Delevante				6.50.58	3.15.58*

ORIENTA ONE DESIGN

O1	*Salty*	J. A. Hagerty			3.35.00	d. n. f.	
O4	*Thane*	A. L. Snow				6.32.10	2.47.10 2.47.10*
O5	*Alice*	A. Griffin				6.32.11	2.47.11 2.47.11

*Winners

Regatta Stratford Shoal and Return, August 2nd, 1919.

RATING CLASS, START 7.00 P. M., DISTANCE 65 MILES

Name	Owner	Club	Finish H. M. S. A. M.	Elapsed H. M. S.	Allow. H. M. S.	Corr. H. M. S.
Joyant	T. B. McGovern, Jr.	I.H.Y.C.	4.11.12	9.11.12	allows 5m	9.11.12*
Adios	F. L. Richards	N.Y.Y.C.	4.42.20	9.42.20	23.50	9.18.30
Alera	F. W. Belknap	N.Y.Y.C.	4.47.10	9.47.10	23.50	9.23.20
Algol	Wm. Fuller	Harlem	6.15.05	11.15.05	57.25	10.17.40
Comet	C. Vanderbilt, Jr.	Larch.	5.29.35	10.29.35	1.04.00	9.25.35
			P. M.			
Vigilence	G. H. Ford	Newport	12.01.15	17.01.15	2.07.00	14.54.15
Constance	E. Groth	N.Y.Y.C.	1.25.20	18.25.20		
Alicia	W. Baldwin	M.B.Y.C.	5.22.53	10.22.53	57.25	9.25.28
YAWL CLASS, ALLOWANCE 10 SEC. PER FT. PER MILE OVERALL LENGTH						
Feu-Follet	O. M. Karsch	N.R.Y.C.	4.48.55	9.48.55	.....	9.48.55
Wenonah	W. C. Webb, Jr	Larch.	.....	.....	3.35.02	
Scud	W. H. J. Ehler	N.R.Y.C.				
Bonita	S. G. Ellis	N.R.Y.C.	.....	.....	4.26.30	
Haydee	K. Stokes		.....	.....	4.36.47	
Windward	F. Gade	N.R.Y.C.	12.18.40	17.18.40	4.20.00	12.58.40
Guardia	Com. C. A. Marsland	N.R.Y.C.	1.28.15	18.28.15	4.40.22	13.47.53
Widgeon	H. C. Hall	Horseshoe			4.59.45	
Hazel	T. Wondsel	N.R.Y.C.	12.01.12	17.01.22	3.06.02	13.55.10
Columbine	W. H. Bowes	I.H.Y.C.	5.51.22	10.51.22	1.21.15	9.30.07*

*Winner

Jackson Park Yacht Club

The Jackson Park Yacht Club of Chicago opened the season on Memorial Day with a race for the Skipper's Cup over the club course of six miles. The 21-footer *Edith II* was the winner.

In the first race of the first series, held on June 7th over the club course, *Seminole* won in the 25-foot class, *Mildred II* in the 30-foot class and *Edith II* in the 21-foot class. In the second race held a week later *Edith II* and *Mildred II* repeated their victories while *Flora* won in the 25-foot class and the 35-footer *Carrie* had a sail over. There were only three starters in the third race on account of heavy weather. *Chaperon* beat *Mildred II* in the 30-foot class, and *Edith II* was the only 21-foot yacht to start.

The first race of the second series took place on July 12th and the 35-foot sloop *Intrepid* established a record for the course of 44 minutes 35 seconds. The 30-footer *Pilot* defeated *Chaperon*, and *Edith II* had a sailover.

On July 26th there was a long distance race from Chicago to Milwaukee, 87 miles. *Pilot* again showed the way to *Chaperon* in the 30-foot class and *Prairie* led the 35-footers. The schooner *Briar* sailed alone and the 35-sloop *Outlaw* was disabled.

The second race of this series was held on August 23rd in a heavy southwest wind. *Edith II*, which finished under a jury rig, and *Intrepid* were the only two yachts to complete the race. In the third race on September 6th the winners were *Chaperon* and *Edith II*.

The 16th annual Michigan City Race, open to all clubs of the L. M. Y. A., was sailed on August 16th in a strong west wind. The 25-footer *Diamond* won the time prize, her corrected time being 3 hours 46 minutes 47 seconds for the 34 miles. *Valkyria* led the 30-footers and *Edith II* the 21-foot cabin class, while *Sarakin* was the winner in the 35-foot class. *Sarakin* also made the run in the fastest elapsed time, 4 hours, 23 minutes, 35 seconds. In the hard blow the 25-foot sloop *Quest* was dismasted. The 30-footer *St. Claire* was also dismasted and the *Pilot* was disabled. The 35-foot yawl *Omoo* was disqualified, the R-boat *Invader* was disabled, as were the 21-footer *Cherry* and the 35-footer *Prairie*.

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MARCH, - - 1918 APRIL, - - 1918

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Galleys of the Sixteenth Century

(*Continued from page 17*)

arrows. Some had swords, but by no means all of them.

But to return to the galleys of the sixteenth century. It does not appear that the Turks in general treated their galley slaves any worse than the Christians did theirs. Both were bad enough, to be sure. The prisons or barracks of the Turks, where they were kept when the vessels were laid up, were a shade more filthy and dreary but at sea the vessels in the sultan's service had oar gangs which were the captain's private property and were therefore used as carefully as horses, which the slaves and convicts under the Christian banner were not. The Dutchman, John Struys, who was a slave in the Turkish galleys in 1656, was captured while stealing grapes from a vineyard upon the plain of Troy, while on shore from his vessel with a watering-party. He says his treatment in the galley was inhuman and barbarous beyond belief, because (like poor Jean Marteilhe in the French galley where he served) they happened to have the most severe *comito* in the fleet, and their naked ribs were plied with the *nerve di bue* on all occasions. A Russian fellow slave, with whom he afterwards escaped, had already attempted it several times before and had each time been retaken, and had neither ears nor nose left, as one of these organs had been cut off on each occasion. At last the two got off, on a dark, rainy night, when at work at shore, but early in the morning were discovered from a Turkish camp just as they were taking to water to swim to the Venetian squadron which was lying about two miles off. The Turks shot at the fugitives with the long bow and the unfortunate Russian was hit but managed to swim to the Venetians with the arrow in him.

A favorite method employed by the Barbary Moors to recruit their crews was to approach the coasts of Sicily, the Balearic Islands and even the Continent, in the night time, secrete their galleys in some creek or inlet and capture the country people as they came out to their work in the early morning. The towers so often seen on these coasts were built in many cases as places of refuge in such emergencies.

The service in the Barbary galleys was much more severe than in Turkish. In the first place, they were more constantly at sea and used their sails but little so as to approach vessels unseen. Flogging, mutilation and very short commons was the rule.

The notorious Uluch Ali, who was

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himself a renegade, had among the slaves of his galley a knight of St. John and frequently, for his amusement, would call for the "dog of St. John" and have him given a couple of hundred lashes. But the best ships and the best seamen in the sultan's fleet were furnished by the fierce pirates of Barbary.

(*To be continued*)

From Telephone to Hydroplane

(*Continued from page 4*)

of the two lowest blades of each hydrofoil. These steel supports are then carrying something over a ton to a square foot. Mr. W. W. Nutting, to whom we are indebted for the photographs, tells us that she runs very smoothly in a sea that would stop an ordinary racing hydroplane. There is none of that pounding and jolting, like riding over cobblestones in a springless wagon, that jars the very soul out of the crew of the modern speed boat. She will go 60 to 70 miles an hour in waves a foot and a half in height and she goes right through a sea that would make a surface craft shiver and stop. She handles with the ease of an automobile.

HD-4 is frankly an experimental craft. What Doctor Bell will make of the idea, the future will show. At present she is but a step in his series of experiments and we look forward with interest to her inevitable successors.

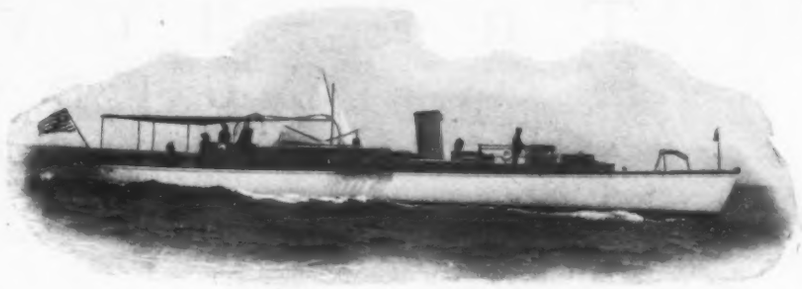
Mr. Wood's Racing Career

(*Continued from page 5*)

the turns as well as her younger sister and the cup went to *Miss Detroit III*.

Since then a new boat has been built for Mr. Wood and has been partially tried out. She will probably be known as *Miss Detroit IV* and will go to England this summer. He is also building a larger boat, *Miss America*, which, too, he will take to England in an endeavor to bring back the famous Harmsworth Cup.

Should Mr. Wood succeed in winning the British International Trophy he will hold the premier motor boat speed trophies of the world, though he cannot get back in time to defend the Gold Cup this year. It is not given to every man to hold so many trophies for long at a time, but if he wins abroad this year he will at least have had the satisfaction of having won them all.



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